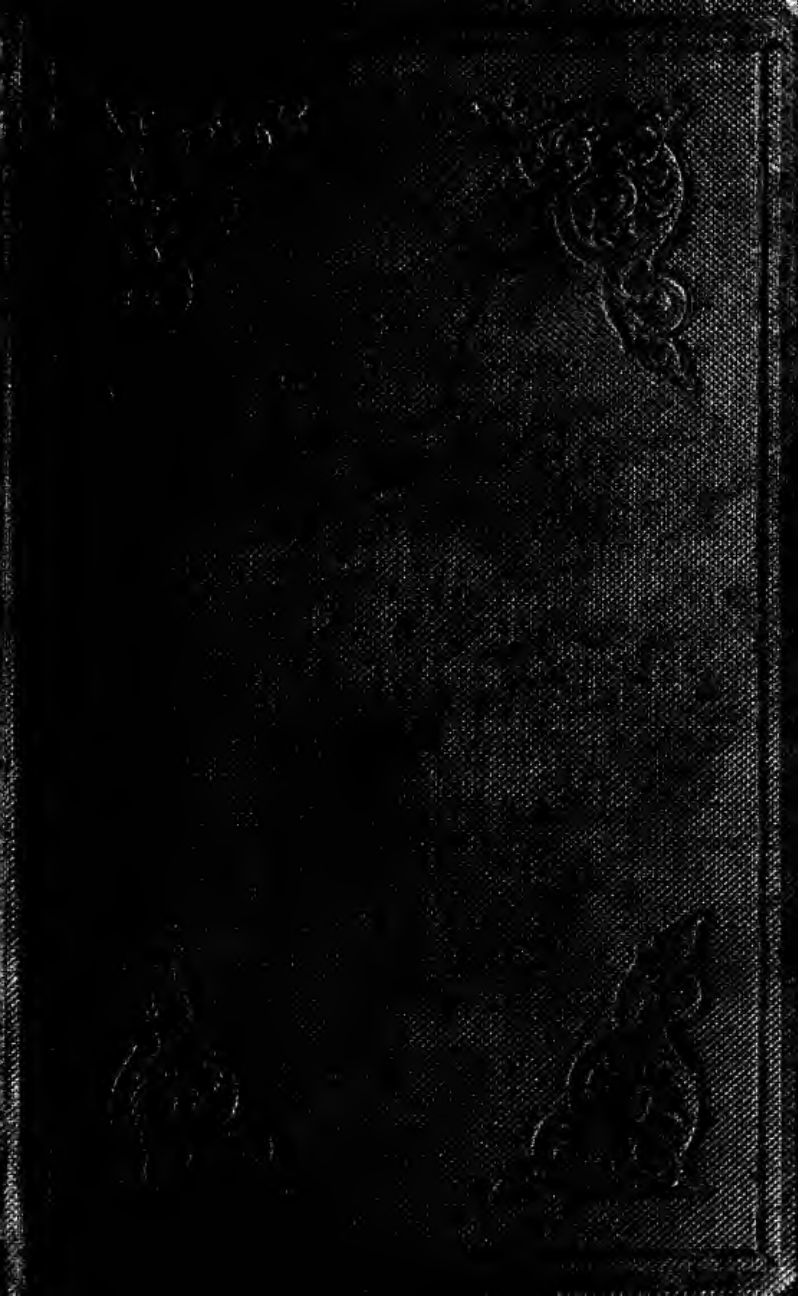

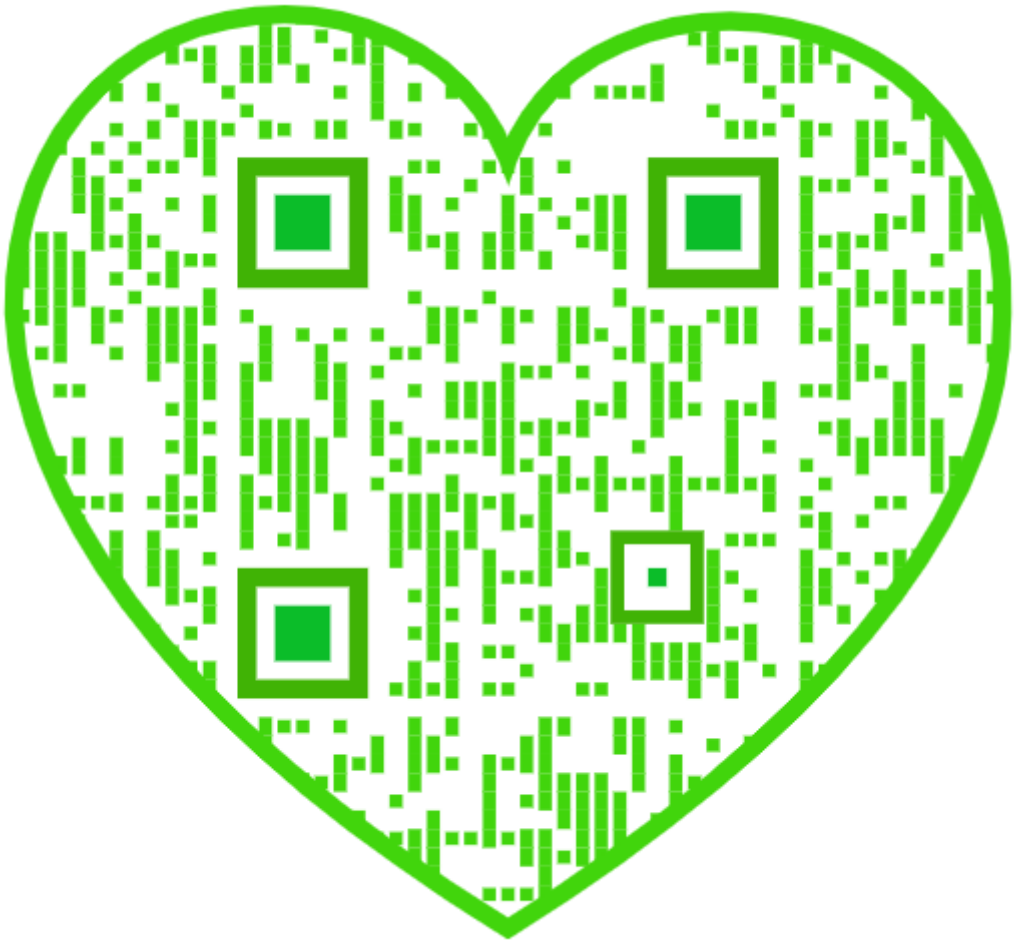

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ORNAMENTAL

AND

DOMESTIC POULTRY.

ORNAMENTAL

AND

DOMESTIC POULTRY:

THEIR

HISTORY AND MANAGEMENT.

BY

THE REV. EDMUND SAUL DIXON, M.A.,
RECTOR OF INTWOOD-WITH-KESWICK, NORFOLK.

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TO

THE MEMORY OF THE FAITHFUL WIFE,

DURING WHOSE BRIEF COMPANIONSHIP ON EARTH

THESE ESSAYS WERE COMMENCED;

THEY ARE NOW, IN THEIR AMENDED FORM, WITH DEEP SORROW

INSCRIBED, BY

THE AUTHOR.

EPOPS.—"Epopoi! popopoi! popoi! popoi!
Flock hither, flock hither, flock hither,
Hilloah! Hilloah!
All ye of like feather,
Wherever ye be,
Whether barley ye gather,
Or seed on the lea;
With a skip and a bound,
And a song of sweet sound,
Flock ye hither to me.
Ye that twitter the clod around,
Tio, tio, tio, tio, tio, tio, tio, tio,
Or in ivy-bush dwell
'Mid gardens; in mountain or dell;
Who dip the beak, or who brush the wing,
In reedy pool, or in plashy spring;
On berries of wilding-olive feed,
Or strip off the arbute's scarlet seed,
Come along, come along
To the voice of my song,
Trioto, trioto, trioto, tobrinx;
Or on wide fenny flats,
Flitting after the gnats,
When they're twanging their horn,
Snap them up; or at morn,
Where the dew lies, are seen
Glancing over the green
Of sweet Marathon's mead;
And with pinion so bright,
Hazel-hen, hazel-hen:
Or whose tribes take a flight
On the tumbling sea-billow,
Where the king-fishers pillow,
Come hither and hear,
What news we have here;

For all our tribes are gathering,
Fowls of every plume and wing:
And there is amongst us brought
An elder shrewd of subtle thought,
That plans new counsels for our state,
Come all, and aid the deep debate:
Hither, hither, hither."

Cary's Birds of Aristophanes, Act I.

PREFACE TO THE FIRST EDITION.

THE history of the present volume is very simple, and, it may be, runs parallel with that of many other works on higher subjects. The Author, with his Wife (now removed from worldly trouble), and his Child, were living in a small suburban house, that had a little back-garden attached to it. As a harmless amusement they procured a few Fowls to keep, although totally ignorant of their ways and doings. In aid of this ignorance books were procured—to little purpose. The difficulty of obtaining instruction from others led to closer observation on our own part, and a more eager grasp at the required knowledge. By degrees, a few water-fowl were added to the collection; but the only watering-places on the spot were tubs and milk-pans. A neighbour, however, obligingly permitted the flock of strange fowl to be driven to a small pond, a few score yards off. They throve, and duly increased; but still little help was to be had from books. Encyclopædias, though in them the Natural History department is almost always well executed, were little satisfactory. "Anser, see Goose;" "Goose,

see Anser," is scarcely an exaggeration of what often fell out. Several current Poultry-books were purchased, which proved to be compilations of matter, valuable indeed in the hands of an editor practically acquainted with his subject; but these works are full of errors, grossly evident even to learners, and of contradictions that must strike any attentive reader, even though he had never seen a feathered creature in his life.

But a student is sometimes the best teacher of any branch of knowledge, as far as he has himself advanced in it, because he has a fresh recollection of the questions which gave him the most trouble to solve; and therefore notes were made, mentally, and on paper, from time to time. It was afterwards encouragingly suggested that the publication of them might be ventured upon, as being possibly acceptable to people requiring such information. They were offered to the editor of the *Gardeners' Chronicle*, readily accepted, favourably received by the readers of that valuable paper—a class of persons whose good opinion I must think it an honour to have obtained—and the reader now holds in his hands the entire results of my present experience in that department of Natural History, in addition to what has been already published in the *Agricultural Gazette*. It is hoped that the need of some attempt of the kind, from some quarter, will conciliate a lenient criticism of the many errors and deficiencies with which the Author may doubtless be chargeable, whatever pains he may have taken to guard against them.

Poultry has been too much undervalued as a means of

study and a field of observation. Insignificant, and to us valueless wild animals, brought from a distance, about whose history and habits we can learn little or nothing, are received with respectful attention by men of education and ability, are embalmed in spirits, treasured in museums, and pourtrayed by artists ; but a class of creatures inferior to few on the face of the earth in beauty, useful, companionable, of great value in an economical point of view, are disregarded and disdained. It is possible that any one claiming to be considered as an educated gentleman, may be thought to have done a bold thing in publishing a book on Poultry, and giving his real name on the title page. Moubray, who has written perhaps the best modern treatise on the subject, only ventured to meet the public criticism under the shelter of an assumed title.

But some very important speculations respecting organic life, and the history of the animated races now inhabiting this planet, are closely connected with the creatures we retain in Domestication, and can scarcely be studied so well in any other field. Poultry, living under our very roof, and by the rapid succession of their generations, affording a sufficient number of instances for even the short life of man to give time to take some cognisance of their progressive succession, — Poultry afford the best possible subjects for observing the transmission or interruption of hereditary forms and instincts.

I shall, no doubt, at the first glance, be pronounced rash, as soon as I am perceived to quit the plain task of

observing, for the more adventurous one of speculating upon what I have observed. I can only say that the conclusion to which I have arrived respecting what is called the "origin" of our domestic races, has been, to my own mind, irresistible, having begun the investigation with a bias towards what I must call the wild theory, although so fashionable of late, that our tame breeds or varieties are the result of cross breeding between undomesticated animals, fertile *inter se*. It will be found, I imagine, on strict inquiry, that the most careful breeding will only fix and make prominent certain peculiar features or points that are observed in certain families of the same aboriginal species, or sub-species,—no more: and that the whole world might be challenged to bring evidence (such as would be admitted in an English court of justice) that any permanent intermediate variety of bird or animal, that would continue to reproduce offspring like itself, and not reverting to either original type, have been originated by the crossing of any two wild species. Very numerous instances of the failure of such experimental attempts might be adduced. The difficulty under which science labours in pursuing this inquiry, is much increased by the mystery in which almost all breeders have involved their proceedings, even if they have not purposely misled those who have endeavoured to trace the means employed.

As to the great question of the Immutability of Species, so closely allied to the investigation of the different varieties of Poultry, as far as my own limited researches have gone—and they have been confined almost entirely to Birds under the influence of man—they have led me

to the conclusion that even sub-species and varieties are much more permanent, independent, and ancient, than is currently believed at the present day. This result has been to me unavoidable, as well as unexpected; for, as above mentioned, I started with a great idea of the powerful transmuting influence of time, changed climate, and increased food. My present conviction is that the diversities which we see in even the most nearly allied species of birds, are not produced by any such influences, nor by hybridisation; but that each distinct species, however nearly resembling any other, has been produced by a Creative Power: I am even disposed to adopt this view towards many forms that are usually considered as mere varieties. As far as I have been able to ascertain *facts*, hybrids that *are* fertile are even then saved from being posterityless (to coin a word) only by their progeny rapidly reverting to the type of one parent or the other: so that no intermediate race is founded. Things very soon go on as they went before, or they cease to go on at all. This is the case with varieties also, and is well known to breeders as one of the most inflexible difficulties they have to contend with, called by them "crying back." This circumstance first led me to suspect the permanence and antiquity of varieties, and even of what are called "improvements" and "new breeds." Half of the mongrels that one sees are only transition-forms, passing back to the type of one or other original progenitor. At least, my own eye can detect such to be frequently the apparent fact in the case of Domestic Fowls. Any analogies from plants must be cautiously applied to animals; but even in the vegetable kingdom the number

and reproductive power of hybrids is apparently greater than it really is, owing to the facility of propagation by extension, by which means a perfectly sterile individual can be multiplied and kept in existence for many hundred years; whereas a half-bred bird or animal would, in a short time, disappear, and leave no trace. I have not met with one authenticated fact of the race of Pheasants having been really and permanently incorporated with Fowls, so as to originate a mixed race capable of continuation with itself; but with many that prove the extreme improbability of such a thing happening. The vulgar notions, that Hens kept at the sides of plantations *therefore* become the mothers of half-bred chickens, by whom Pheasant blood is again transmitted to their progeny; and that *Hens*, whose plumage in some measure resembles that of the *Cock* Pheasant, are *therefore* hybrid individuals—are too vague to be listened to, in the absence of clearer evidence, which is not yet forthcoming. But it will not be easy to eradicate this prejudice from the popular mind. Mr. Darwin's discovery, the result of his great industry and experience, that "the reproductive system seems far more sensitive to any changes in external conditions, than any other part of the living œconomy," confirms my suspicion of the extreme improbability of the origination of any permanent, intermediate, reproductive breed by hybridising. It would thus seem, that so far as those organs are not much changed from their normal condition in one or other parent, (which we may suppose shown by the fact of their producing young resembling, not *themselves*, but *their own* parents,) they are fertile; but, when so changed as to be incapable of producing

such young, they do not produce at all. At least, this is the way in which I must interpret the fact. The dissection of a fertile hybrid, and the comparison of its reproductive system with that of either parent, might throw light upon the question; but it would be a nice undertaking. Mr. Darwin suggests, "If you ever had it in your power fairly to test the possible fertility of the half-and-half birds *inter se*, I certainly think you would confer a real service on Natural History." I have therefore proposed to myself to test the fertility of various half-bred Geese, one with another, avoiding as far as possible near relations, and confining myself to that genus especially, because almost any species of Goose will breed with any other. Geese, therefore, give greater promise of instructive if not successful experiments by the intermarriage of hybrids, than any other bird with which we are acquainted. If my suspicion be correct, that many varieties of Fowls (and perhaps of Dogs) are aboriginal, and not the results of Domestication, the mere fertility of hybrids (partial or complete) must cease to be a test between species and varieties. That, however, is a question of words, rather than of things. It may be observed that a sufficient number of *lusus* and hybrids have been produced, in the course of ages, to stock the world with an infinite variety of forms, had not that class of heterogeneous beings been in themselves of an unprolific and transitory nature. But the number of existing forms is diminishing instead of increasing. It is not too much to say, that if the history of the world goes on as it now does, every fifty years, for some time to come, will witness the extermination of

at least one species of creature from the face of the globe.

The reader will perceive that a description has been given, in most cases, of the newly-hatched chicks of each species of Poultry. The idea of doing this was suggested by an inquiry, which had for its object to ascertain the amount of differences in the very young of our supposed domestic races, compared with the difference of the mature animals, in relation to the general belief that, in youth, species differ very little from each other; it being really the fact that the embryos, of even distinct orders, are closely and fundamentally alike each other. But if these embryotic similarities between birds and any other class of creatures be sought for, the time of the exclusion of the chick from the egg is far too late in its existence to look for them. Observant persons, who have themselves been practically engaged in the rearing of Poultry, will immediately recognise the newly-hatched chick of each variety with which they are acquainted. Nay, when an egg has been accidentally broken after a fortnight's incubation, I have myself been able to decide of what breed it would have been, had it survived. I believe that a comparison of the newly-hatched young of all wild birds would lead to the like result. The only chance of finding any such analogies, or rather confusion, would be obtained by examining the embryos of birds, reptiles, and fishes, two or three days after the hatching of the ovum had commenced.

But it is now time to say a few words on matters of more general interest.

As regards the money profits derived from Poultry, I have been reproached with confining myself to general statements, with avoiding details, abstaining from figures, and checking enterprise by mere assertions. But I had rather receive the praise of having deterred one sanguine speculator from obtaining an uncertain profit, than incur the blame of having urged twenty bold adventurers to a certainly unprofitable outlay. In consequence of recent discoveries and new modes of management, we are to have companies formed for the production of poultry on a grand scale! When the apparatus is got together, and the capital expended, and it is found that, after all, the chickens cannot be reared, except by twos and threes, instead of by scores and hundreds, the bubble must burst, like thousands of others; meanwhile, we, prophets of evil, premise that the more densely poultry are congregated, the less profitable will they be: the more thickly they are crowded, the less will they thrive. Could I put together in figures a statement of great profits that would satisfy my own mind, and that I could honestly recommend as a guide to others, I would most gladly undertake so agreeable a task. Many of the debtor and creditor accounts of Fowl-keeping that have been published, will not bear close examination by those acquainted with the minutiæ of the matter. It is not supposed that such accounts are put forth with a wilful intention to deceive; but they are no more to be relied on, for practical purposes, than would a ship-owner's account of his herring-fishing, if it made no allowance for an occasional bad catch, the loss of a boat, or a set of nets worth 100*l.*; to say nothing of

wear and tear, and the widows of drowned fishermen to assist. Nothing is so likely as specious detail to mislead those whose experience is insufficient to detect its incompleteness, not to say its error.

Thus, one writer (in the *Agricultural Gazette*, Sept. 23, 1848) tells us, that by adopting the regimen advised by one good Mrs. Doyley, Hens may be made to sit four times in the season. Each time they sit, they are to hatch two broods, by the withdrawal of the first clutch of chickens, and the replacing them with fresh eggs. The kidnapped chicks are to be reared by an artificial mother; we are told how. If the Hen hatches only ten chickens from each set of eggs (which is considered a low estimate) this gives eighty chickens per annum from each Hen. Let us work the scheme out a little further. If one Hen will produce eighty chickens, for the expense of maintaining five hens, (and, we suppose, a Cock, though he, poor fellow, is not mentioned), we get four hundred chickens in the course of the year, or more than one a day upon our table. Who would not keep five Hens, and even submit to the additional cost of a Cock, if necessary? But, alas! if we reckon, eight sittings of three weeks each amount to twenty-four weeks, or nearly half the year. Now the Hen that incubated twenty-four weeks in one twelvemonth, and hatched only fifty chicks during the same period, would deserve a gold medal and a pension for life from the Royal Agricultural Society. Hens are made of flesh and blood, not of wood, hot water, iron, and mackintosh. Whenever I have overtasked the incubating powers of Hens, they have invariably

suffered for it afterwards: it has taken them the whole autumn, and perhaps the winter also, to recover their health. One fine Dorking Hen, who had been over-worked in this way, never sat afterwards, and laid but indifferently, though we kept her for the two following summers.

Another gentleman, having read somewhere that certain Cochin China Fowls attain great weights, and that the Hens lay two, sometimes three, eggs a day, declares his intention of speculating in the purchase of a large number of them, with the hope of eventually forming a Poultry Company, without knowing either how old these very heavy Fowls were, if they existed, and without making sure that these feats of laying were ever performed, except upon paper. These are the sort of details which I certainly am cruel enough to cast cold water upon, and disrespectful enough to treat with ridicule.

But the Reader has listened long enough to this præludium; we will strike the final chords, which sound harmoniously to our own ears. Thanks are the burden of our closing song. Without great help, this volume, though small, could not have been written at all; without great encouragement the writer would certainly not have ventured to send it forth. It is scarcely possible to mention by name all the persons to whom he is indebted for hints, and answers to inquiries. The addition of initials to many paragraphs is an attempt to avoid some part of the reproach of strutting in borrowed plumes; they will also perhaps serve as props to sustain his own otherwise tottering edifice: but it would be an

ungrateful omission not to mention specially the obligations under which the Author feels himself bound to the Editors of *The Gardeners' Chronicle and the Agricultural Gazette.*

CRINGLEFORD HALL, NORWICH,
October, 1848.

PREFACE TO THE SECOND EDITION.

The Prefaces to the First and Second Edition of any Book are written under very different feelings and circumstances. In the one case an Author is on the eve of submitting his labours to the tribunal of criticism, not always good-natured or impartial; in the other, he has passed the ordeal, surviving the several cuts and burns that may have been inflicted upon him; that best Censor of the Press, the British Public, has stamped the approving *Imprimatur* upon his fly-leaf; he may then be allowed to rejoice and congratulate himself, if he do but cherish, as he ought, due gratitude to those who held out a helping hand while the success of his venture was yet uncertain; for he may at length calculate upon the votes of those who wait to hear what opinion others shall pronounce, as well as of those who have the courage and intelligence to think for themselves.

Exclusive of the fact that a large impression has already been disposed of, this Edition, it may be hoped, will meet with a favourable reception, from having been carefully revised throughout, and enlarged with additional

matter to the full extent that the space allowed by the Publisher would permit. The opportunity of attending the Great Birmingham Show of Cattle, Sheep, Swine and Poultry, at which the Author had the honour to be selected to act as one of the Judges, enabled him to make a careful inspection and comparison of those breeds of Fowls whose nomenclature and arrangement were most confused; and by the kind and able assistance, both previously and since, rendered by the Gentlemen connected with the management of that important Meeting, it may be said, without vain boasting, that a fuller account is given of the Domestic Fowl, as at present kept in England, than is to be found in any other treatise on Poultry.

The original passages from Greek and Latin authors have been omitted, and translations only retained, with references. In such cases where the Translator's name is not given, the writer of the volume is responsible for them. The learned reader will make allowance for any errors he may suspect, by remembering that middle-age latinity is often ungrammatical, and Greek prose obscure.

The addition of an Index much increases the practical utility of the work. As to the theoretical views propounded, the Author is not vain or confident enough to say that he has hit upon the truth point-blank; but he sincerely believes that his limited attempts to explore the labyrinthine subject of Domesticated Birds have been made in the right direction; and abler and more experienced persons than himself are beginning to think

so too. A Sequel Volume, to comprise the history and habits of many birds not mentioned in this, may perhaps one day show what additional light a wider survey of species throws upon this interesting and really important subject. For the point at issue is no less than this; whether Man, as he floats down the current of time, has the power of greatly modifying the natures of the humble fellow-creatures that are borne on alongside with him (although he has not the power of modifying himself—"which of us by taking thought can add one cubit unto our stature?"); also whether gradual and progressive changes are, by some innate self-acting power of Nature, constantly taking place in animated beings, so as to render Natural History an eternal series of phantasmagoric, perpetually-dissolving views;—or, whether such notions are not greatly exaggerated; whether this progressive system of Creation be not the result both of a false inference from correct data, and of a true inference from incorrect data; whether a Higher Power than either Man or a mechanical worldspring of Nature, have not originated, and do not maintain, the course of things which we see around us.

A great argument is, that the earth we now inhabit has contained successive races of plants and animals, differing from those now existing, which have successively ceased to exist, and have been replaced by others, till the present order of organic life began. True; it is so; it has been so. *Therefore*, say they, first came the semi-animate polypus, from that grew the articulate worm, from that the fish, from that the reptile, from that the

quadruped, from that the monkey, from that the race which reasons about, and bears dominion over all,—the race of Man. From sundry of these, or their intermediate progressive forms, branched off, at various epochs, the insect and the bird, aquatic, terrestrial, and aerial. But Man is not the final ruler of the world; from him, by some fortunate conjunction, will proceed a still superior race, as the law of the series is to continue advancing in perfection.

The views alluded to may thus be not fully nor precisely, but are certainly not unfairly stated.* They are

* Lest the reader should doubt that such doctrines really can find advocates, a late specimen shall be given from the Annals and Magazine of Natural History for January, 1850, p. 10. Mr. W. Clark, one of the Contributors, "became fully convinced that the foot, (of one of the boring Molluscæ) having finally performed its terebrating functions, the animal, consequently, having arrived at its full growth, had become absorbed; on the well-known principle, that an organ from want of use is often, especially in the lower animals, followed by its total disappearance. . . . . This phenomenon stamps with additional consideration the Lamarckian doctrine of the progression and advancement of animality resulting from a want requiring to be supplied, which is effected by the concentration of the whole mass of vital energies, the circulation, nervous influences, aided by caloric, the gases, electricity, &c., in forcing and producing the supply of the particular want. That great philosopher instances the addition of tentacula to the Helices in explanation of his views; and this doctrine is strongly corroborated, if the fact of the obliteration of the foot in *Pholadidea papyracea* is considered, *è contrario*, as a retrocession in animalisation. This phenomenon also proves that nature never permanently retains what is superfluous, or refuses, as far as its power extends, to supply urgent requirements.

"This important proof of the soundness of the laws promulgated by M. Lamarck, that nature mechanically produces the progressive march of animal improvement, almost makes us incline to assent to

plausible, attractive from their simplicity, and have some true and many false facts to support them. *But*, we want the evidence that the changes which have taken place in the vegetable and animal inhabitants of the earth have been gradual and self-originated; there is much to the contrary, showing that they have been violent and convulsive,—works of the fire, the earthquake, and the deluge. For the re-creation of the chaos, for the refilling of the void of life, for the re-peopling of the desert, there is but one Power that we can look to, and that must be an Omnipotent Intelligence. In the existing order of things a gradual *extinction* of certain species is going on, but no reconstruction that we can perceive, no modification except within prescribed and impassable limits. The more rigorously the steps of the construction of these assumed new forms are demanded, the more do they fail to stand the gaze of inquiry. And if an advance of an inch span cannot, under scrutiny, be made to afford a firm footing for the progressive theory, how shall the scientific speculators on the self-born origin of created things be allowed to stride from mountain-top to

the high and metaphysical researches of that great naturalist, that the doctrine is not without foundation, that the first sparks of vitality arise from gravitation and molecular adherence, aided by the gases put in action by caloric, electricity, &c." [We would respectfully decline following our correspondent in these speculations.—*R. T.*] "*If we adopt this view, we admit that the germ of vitality communicated to matter arises from the mechanical power intrusted to nature*; but" [then what meaningless words are these!] "we must not for a moment forget that nature can do no more than perform the high behests of the Deity, nor exceed those limits of action confided to her by the Great Ruler of the universe, who is the *ens entium*, and the first cause of all that exists."

mountain-top? It is here that such humble pursuits as the present Volume is intended to illustrate, are the instruments wherewith to shackle the wings of reckless and over-daring fancy. For instance, a great deal is built upon the notion of producing a new species by the intermingling of two old ones, and *so* one mode of reconstructing a fresh Fauna is indicated; which let those believe who have great credulity and little practical experience. The result of what the Author has heard, and seen, and tried, leads to quite a contrary conclusion. It is well credited that certain Fowls owe their origin (their creation, in short, as the French writers express it) to the coupling of Pheasants with barn-door Hens: the notion is an absurdity, as, it is to be hoped, is shown in the proper place. Socialism *may* answer with the human race; it certainly is not the natural order of things in the Class Aves. But many people are still anxious for *further* experiments, and urge them to be made,—a request that should be complied with were patience and simple good-nature inexhaustible: but let the chemical amateur think how he would act, were a grave professor to desire him to institute a new set of experiments with the object of discovering the philosopher's stone, or potable gold, the elixir of life! A hybrid *can* sometimes be obtained in such cases; but what of that? It is the *permanent intermediate* progeny which is required by the progressionists. The usual result of such unnatural crosses amongst birds is male offspring only, females being rare; the principle of life in the female embryo produced by a forced union, seems too feeble to advance into actual existence. When the parents of the hybrid

are of widely separated species, these males are as good as sure to be sterile, and grow large and fat, like Capons, or barren Cows and Hinds. But not here alone is the progressive theory at a stand-still.

Certain stars called nebulæ, beheld with the best telescopes, have an ill-defined cloudy look; others are less and less so, till we arrive at the perfect, point-like, glittering star, or cluster of stars, shining like diamonds in the sky. Hence it has been concluded that these groups of suns are in a state of transition, passing from a vapoury chaos of inconceivable heat into the coolness, arrangement, and order of our own system. But, to the destruction of these etherial castles, Lord Rosse builds a telescope of unprecedented power, and those cloudy stars, the imagined chaotic burning nebulæ, are beheld as groups of gold-dust, each grain a sun, doubtless with its attendant worlds.

Again; an ear of Wheat is plucked in the fact of transmuting itself into Oats. (See *Gardeners' Chronicle*, October 6, 1849). Dr. Lindley dissects the ear, and finds that the unhappy kernel which had caused the metamorphosis, and from which so many wonderful conclusions were to be drawn, was simply an entanglement during growth of one head of corn accidentally brushing against its neighbour.

Mr. Baily, dwelling in the heart of the London fashionable world, has Fowls sent him to prove what unnatural vagaries Pheasants will play, for the sake of establishing

on earth a novel form of bird ; but the novelties are old friends of the experienced poulterer, and can be matched any day from Holland, or Lancashire, or from places where Pheasants, in the life, have not been seen for years. And in this way, not the finger of the Creator, but the vestiges of created things, are attempted to be tracked without fault or check !

In these reasonings, as observed in the first Preface, reliance is too apt to be placed on inapplicable analogies drawn from experiments in hybridising plants. Corporal Trim said, " We are not stocks and stones ; " Birds will exclaim, " We are not vegetables and shrubs." For, rejecting the many ways of propagating a new plant by extension, *i. e.*, by cuttings, grafts, suckers, offsets, &c. —and we cannot make a cutting, graft, or layer of a hybrid Hen—we must remember that every seedling, except in the limited case of diœcious plants, is a prolific hermaphrodite, instead of an incapable male. But even that grand favourable circumstance is often unavailing to perpetuate the novelty *by seed*, as the writer was once astonished to discover when he *had* raised a new cabbage and took great pains to continue it " true ;" but alas ! the new cabbage disappeared like a shadow, leaving representatives of one only of its parents, the sturdy Savoy.

The agency which climate is made to exert in the transmutation of species, is here dismissed by referring the reader to the White Peacock and the Rumpless Fowl. To deny that animals vary at all, in either a

wild or a domesticated state, is of course erroneous, and would, in fact, go to the extent of denying all individuality; but a strong suspicion may be reasonably entertained that such variations occur in prescribed cycles, and within certain limits, backwards and forwards, for which there exists a law, if we could but find it out, and that there is no progression or transmutation out of one species into another; just as, if the comparison be allowed, the Moon has her librations, and though a slight variation takes place, we see, upon the whole, the same disk; or, as the orbits of the planets, though liable to perturbation, still do not deviate far from their general track, nor strike off into open space. If this limitation of variation in animals were either proved or disproved, it would be a strong argument either one way or the other.

In searching after the original condition of existing forms, it may be suspected that the circumstance of finding *various series of forms* has been made to prove much more than it ought to be allowed to prove. Laplace's comparison of the nebulæ, in what are supposed progressive stages of forwardness, to the trees of different ages growing in a forest, has always struck the writer as assuming too much.* If what is said of Lord Rosse's

* "From absolute vagueness, to distinct structure, and then on to the formation of a defined central nucleus, the nebula seems growing under our eye! The illustration of Laplace, reproduced by Mr. Airy, here forcibly occurs to me: 'We look among these objects as among the trees of a forest: their change in the duration of a glance is undiscoverable; yet we perceive that there are plants in all different stages; we see that these stages are probably related to each other in

telescope be true, and that the nebulæ are likely to prove all resolvable with improved instruments, and not to be in different stages of growth, which we can prove, the simile fails, and we see how little trust we ought to put in this interpretation of a series, namely, that any one individual form must have passed in succession through those which are nearest below it in the chain. The minds of children are too acute to reason in this way. No little girl, surveying a toy-shop, would take the six-penny doll that is offered to her to be the juvenile state of the shilling one that she covets. A truer comparison

the order of time, and we are irresistibly led to the conclusion, that the vegetable world in one case, and the sidereal world in the other, exhibit, at one instant, a succession of changes requiring time, which the life of man, or the duration of a solar system, may not be sufficient to trace out in individual instances.' And the progression advances until it is complete."—*Nichols' Architecture of the Heavens. 4th Edition*, p. 133.

"Of course, when I speak of *progress*, I shall be understood to signify progress as seen through a series of related contemporaneous objects in different and connected states—not that progress which has never been observed—the passing, viz., of one nebula from an inferior into a higher condition. But is the conclusion rash, that this latter progress is possible? Is it not darkly, but impressively intimated by the unbroken integrity of the series? What principle of philosophy hinders the supposition, that each of these varying (various?) bodies holds with those on both sides of it also the relations of progenitor and descendant, that the unbroken contemporaneous series is also a picture of youth, ripening, and manhood—in short, that the principle of attraction has actually brought such distinct round nebulæ as are seen clustering together, and also collections of stars imbedded near each other on a whitish light, from the bosom of masses like those looming elsewhere—still all indefinitely—among the masses of the firmament?" *Idem*, p. 130. A more eloquent begging of the question it would be difficult to adduce.

of the varied appearance of the nebulæ may be, that such a series resembles not the assemblage of young and old trees of the same species in a forest, (which we see, and are told by our forefathers, change their proportions from the seedling to the stag-headed timber tree), but a herbarium, containing a classified collection of *all the plants* in the same forest, from the mould-fungus to the oak, arranged each in its proper place in the series, but by no means losing its character for permanence, in consequence of that arrangement. If the nebular theory falls to the ground (as we may assume it has fallen), will not the arguments for gradually-progressive physical organic changes in other departments of nature, and which are mainly supported by the analogy of the nebulæ as the first grand step in Creation,—will not those arguments be greatly weakened by Lord Rosse's resolution of many hitherto unyielding nebulæ ?

The only apology that is offered for this tedious preamble, is that it seemed desirable to show that what may be called crotchets have not been entertained without some shadow of reason. An abler writer than the present, with equal practical study, could easily make the ground taken far more tenable. It may be difficult to explain all points connected with his position in the argument, but the advocates of progression are defied to prove the accuracy of theirs, minutely, and step by step. Let them carry out their theory ; let them use synthesis as a test of their analysis ; let them make us a new species, by combination strictly evidenced, not by importation, nor by a constant interdashing of foreign blood.

This will have a far more convincing effect than to go on working laboriously at mere hypotheses, and requiring the opposing counsel to bear the burthen of proving a negative.

CRINGLEFORD,
February, 1850.

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ORNAMENTAL POULTRY.

PEA-FOWL.

"Were it known, that a paradise or a humming-bird could be seen alive in any of our zoological gardens,—birds which, however beautiful, sink into insignificance before this,—half London would flock to see them; nay, if one of those monstrous abortions—a double-headed chicken, which we have more than once read of—could have been fed and reared, the owner would have made his fortune! Thus does curiosity, in minds essentially vulgar, predominate over the lasting sense of beauty; and the glories of the visible heavens, no less than the splendours of the peacock, are passed with indifference by unreflecting millions, because both are every-day sights."—SWAINSON.

So charming is the perfect combination of grace and splendour displayed by these most lovely creatures, so excellent is their flesh, so hardy are they in their adult state, that, were it not for certain inconveniences attendant upon keeping them, and also, perhaps, for the indifference with which everything not rare is apt to be regarded by us, they would be sought after as never-tiring objects wherewith to gratify the sense of sight. Who does not remember the thrill of delight with which, in childhood, he first gazed upon their brilliant gorgeousness? Peacocks and gold fill our youthful imaginations as fit elements of the magnificence of Solomon; and no fable more fitly chose its decorations than that which attached these feathered gems, in association with the many-coloured Iris, to the train of imperial Juno. Even

the hen of the Pea-fowl, though sober in her colouring, is most harmoniously shaded, and every movement is coincident with the line of beauty.

The causes which disincline many persons from indulging themselves with the daily spectacle of this inapproachable model of beauty, are, in the first place, the depredations that it commits upon gardens. For this there is no help. The dislike which these birds have to enter a fowl-house, and their decided determination to roost on trees or lofty buildings, prevents our exercising a control which should restrain them from mischief till an eye can be kept upon their movements. At the first dawn, or at the most unsuspected moments, they will steal off to their work of plunder. With great conveniences for keeping them in their proper places, I was compelled to choose between the alternative of banishing a very perfect and familiar pair, or of depriving my children of strawberries. A friend, who has been well acquainted with their habits for years, informs me, as the result of his experience, that their cunning is such, that, if frequently driven away from the garden at any particular hour of the day or evening, after a certain time they will never be found there at that special hour, but will invariably make their inroads at daybreak. As a last resource I have tried ejecting them with every mark of scorn and insult, such as harsh words, the cracking of whips, and the throwing of harmless brooms. Most domestic animals, and I believe many birds, are sensitive of disrespectful usage, and would feel as a severe rebuke the manner in which they were thus turned out. But Pea-fowl are incorrigible marauders.

A mansion, therefore, whose fruit and vegetable garden is at a distance, is almost the only place where they can be kept without daily vexation. The injury they do to flowers is comparatively trifling; though, like the Guinea-fowl, they are great eaters of buds, cutting them out from the axillæ of leaves as cleanly as a surgeon's dissecting-knife would. They must also have a dusting-hole, which

is large and unsightly; but this can be provided for them in some out-of-the-way nook; and by feeding and encouragement they will soon be taught to dispose themselves into a *tableau vivant*, at whatever point of view the tasteful eye may deem desirable. No one with a very limited range should attempt to keep them at all, unless confined in an aviary. But, where they *can* be kept at large, they should be collected in considerable numbers, that their dazzling effect may be as impressive as possible. Many gardenless castles and country-houses on the Continent would lose their semi-barbarous and semi-ruinous appearance, by employing these birds as an embellishment. For they are not less pleasing to the eye than the Stork, which is so much encouraged; and they would render in great measure the same services, namely, the destruction of small reptiles, with the advantage of remaining at home all the year round. Willughby gives a ludicrous quotation from Johannes Faber in reference to the serpent-eating propensities of the Pea-fowl, which is too coarse, both in idea and expression, for modern republication, though not otherwise objectionable. Something of the kind is popularly believed, perhaps not utterly without truth, respecting Herons and eels. But to these Continental residences it should be understood that no vineyard be at hand. The greenness and sourness of the grapes, which caused the Fox to refrain, would be but a weak argument with them. A Peacock that was suffered to go at large in the dirty back lanes of a town struck me as being more out of its place than any I had ever seen.

A charming instance of the ornamental use of Pea-fowl was to be seen a dozen years ago (and perhaps may still) at the Palace of Caserta, near Naples. There is an English garden,* admirably laid out, on a slope commanding the most enchanting views. In one part is a small piece of water, in the midst of which is an island planted with trees and shrubs, and inhabited by numerous

* The gravel for some of the walks was brought from Kensington.

Pea-fowl.* Of course they must be pinioned, to prevent their escape. My own birds had no hesitation in flying to and fro, in order to visit an island similarly situated, and which is cultivated as a kitchen-garden. People may talk about Humming-birds, Sun-birds, Birds of Paradise, or any other feathered beauty, but nothing can equal the magnificence of a Peacock in full flight, sweeping across a sheet of water, or glancing in the sunbeams among the topmost branches of a fir-tree.

A second objection to them is their alleged wanton destructiveness towards the young of other poultry,† a propensity respecting which I have heard and read ‡ such contradictory statements, that they can only be reconciled by the hypothesis that the Peacock becomes more cruel as he advances in life, and also that males of this species vary in disposition; that, as the human race has pro-

* "Therefore this genus of fowls is most easily kept in the small woody islands which lie before Italy. For since they can neither fly very high nor for a long distance, and since there is no fear of loss by thieves or vermin, they can safely go at large without a keeper, and find themselves the greater part of their food. The Peahens, indeed, as if freed from slavery, will of their own accord feed their young with greater care; nor should their keeper do more than call the flock toward the farm at a certain time of the day by a known signal, and throw them a little barley as they assemble, so that the birds may not be famished, and their number may be told. But the opportunity of using this kind of landed property is rare."—*Columella*, lib. viii. cap. xi. This is very like our pheasantries in alder and osier carrs. The whole chapter is curious and worth reading.

† Columella gives a fanciful reason for keeping Hens that have families of chickens from coming near Peahens that have broods, which relieves the latter at least from all blame. "Authors are sufficiently agreed that other Hens, which are rearing young of their own kind, ought not to feed in the same place. For after they have seen the brood of the Pea-fowl, they cease to cherish their own, and desert them while still immature, clearly hating them because neither in size nor beauty are they comparable to the Peacock."—Book viii., chap. xi.

‡ See the "Penny Cyclopædia," article Pavonidæ: "I have never kept Pea-fowl, nor seen chicks just hatched, but have witnessed the abominable cruelty of the father of the family in knocking a whole brood of them on the head, when nearly a quarter grown."—*H. H.*

duced examples of such diverse tempers, so the Peacock family includes individuals of different degrees of blood-thirstiness. My own bird, three years old, was perfectly inoffensive; others have been mentioned to me equally pacific. On the other hand, the list of murders undoubtedly committed is long and heavy. The friend before mentioned says, "I have known them kill from twelve to twenty ducklings, say from a week to a fortnight old, during one day; but if they came across a brood of young chicks or ducklings a few days old, they would destroy the whole of them." And yet, in the face of all this condemnatory evidence, we now and then see a favourite bird, with neck of lapis lazuli, back of emerald, wings of tortoiseshell, and tail outshining the rainbow, in some old-fashioned farm-yard, the pet of his mistress, who is perhaps the most successful poultry-woman in the neighbourhood, and whose stock shows no sign of any murderous thinning. The Peahen, who, when she has eggs or young, seems really a more guilty party, is not in general even suspected. So true is it that one man may steal a horse, while another must not look over the hedge.

The hen does not lay till her third summer; but she then seems to have an instinctive fear of her mate, manifested by the secresy with which she selects the place for her nest; nor, if the eggs are disturbed, will she go there again. She lays from four or five to seven. If these are taken, she will frequently lay a second time during the summer, and the plan is to be recommended to those who are anxious to increase their stock. She sits from twenty-seven to twenty-nine days. A common Hen will hatch and rear the young; but the same objection lies against her performing that office, except in very fine long summers, for the Pea-fowl as for Turkeys; namely, that the poults require to be brooded longer than the Hen is able conveniently to do so. A Turkey will prove a much better foster-mother in every respect. The Peahen should of course be permitted to take charge of one set of eggs.

Even without such assistance she will be tolerably successful. Those students of poultry who carefully read the "Guinea-fowl" and the "Turkey," and industriously carry the instructions there given into practice, will have no difficulty in rearing Pea-chicks. A friend writes, "As soon as the young could be decoyed into a shed or house, we always caught them, and gave to each poult three black peppercorns." I only mention the practice for the sake of condemning it; and must most decidedly, though deferentially, recommend that it be omitted, according to the rational theory of poultry-rearing. They are engaging little things, most elegant in appearance, and very tame and confident. I have heard of one reared under a Hen, that would sit upon the hand to peck flies from a window. The same wise provision of nature to be noticed in the Guinea-fowl, is evinced in a still greater degree in the little Pea-chicks. Their native jungle, tall, dense, sometimes impervious, swarming with reptile, quadruped, and even insect enemies, would be a most dangerous habitation for a little tender thing that could run and squat merely. Accordingly they escape from the egg with their quill feathers very highly developed. In three days they will fly up and perch upon any thing three feet high; in a fortnight they will roost on trees or the tops of sheds, and at a month or six weeks you would see them on the ridge of a barn, if there were any intermediate low stables or other building that would help them to mount from one to the other. It must be a clever snake that would get at the cunning little rogues when they were once perched on the feathery branch of a bamboo. Old birds received from a distance are difficult to settle in a new home. Housing they do not like, and will scarcely bear. Most liberal feeding is the best bond of attachment, but even with that they will unexpectedly be off, and will perhaps be stopped on the high road, like other suspicious vagrants. Were I myself to recommence keeping them, I would procure a sitting of eggs, place them under a Turkey hen, and have the

pleasure of watching their whole progress, literally *ab ovo*. Those who are impatient to have a full-grown stock, should still select birds not more than three years old.

The Peacock is capable of considerable attachment to man; and, as might be expected of a bird that has been reared in captivity for several thousand years, may be rendered very tame. By regular feeding he may easily be made to take his place as a liveried attendant at the front door, to show himself, and await his meal with great punctuality. My own bird would come instantly to my call, and not only eat from my hand, but, if I held a piece of bread as high in the air as I could reach, would fly from the ground to take it. The hen was more timid, and could never be induced to give such proofs of confidence. She occasionally erects her tail like the hen Turkey, nor does such display appear to denote the absence of any feminine virtue.

The natural disposition of the Peacock is selfish and gluttonous, and it is only by pampering this weakness that he can be persuaded into obedience and attachment. He is vain, and at the same time ungallant. He is far from manifesting the politeness and attention which the common Cock shows towards his mates. The Peacock will greedily snatch, from the mouth of his hens, those titbits and delicate morsels which the Cock would either share with his favourites, or yield to them entirely. The Peahen, in return, cares less for her lord and master, and is more independent of him when once her amorous inclinations have been indulged. She then regards the display of his tail, his puffings and struttings, and all the rattling of his quills, with the coolest indifference. Nor does *he* seem to care much about *her* admiration, or to make all this exhibition of his attractions to secure *her* notice, but is content if he can get some astonished Hen, or silly, bewildered Duck, up a corner, to wonder what all this fuss is about. Like other vain coxcombs, he expects the lady to make the first advances.

Although occasionally cruel, the Peacock is shy of fighting, particularly when in full plumage; nor do they so frequently engage with each other as with birds of a different species, such as Drakes, Cocks, &c. One, out of feather, was seen to keep up a three hours' struggle with a Musk Drake; had it been in full plumage, it would not have shown fight at all. Their probable term of life is eighteen or twenty years. They may be eaten as poults at nine months old. If fatted, they should be shut up together with any Turkeys that they may have been in the habit of associating with, and fed exactly the same. If confined alone, they pine. They are, however, an excellent viand at a much more advanced age, and without any fatting, provided they have been well fed, and killed at a proper season (that is, when they are not renewing their plumage), and are hung up in the larder a sufficient time before cooking. A disregard to these points has probably led to their being so little appreciated as a dainty dish.* Shotten herring, black salmon, pork in the dog days, and illegal oysters, might, in a similar manner, give a bad repute to other good things, did we not manage them better. When dressed for table, they should be larded over the breast, covered with paper, roasted at a gentle fire, and served with bread-sauce and brown gravy, exactly like Partridges or Pheasants. When moulting, extra diet and variety

* With the ancient Romans they were esteemed as first-class delicacies:

> "Should hunger on your gnawing entrails seize,
> Will Turbot only or a Peacock please?"
> HORACE, *Serm.* I. 2.—FRANCIS, *Trans.*

"Quintus Hortensius was the first who gave the Romans a taste for Peacocks, and it soon became so fashionable a dish, that all people of fortune had it at their tables. Cicero pleasantly says, he had the boldness to invite Hirtius to sup with him, even without a Peacock. 'Sed vide audaciam, etiam Hirtio cænam dedi sine pavone.' M. Aufidius Latro made a prodigious fortune by fattening them for sale." —FRANCIS, *Note to Serm.* II. 2.

of food, including hemp-seed and animal substances, is most desirable.

In general the Peahen makes her nest on the bare ground, amongst nettles or rank weeds; sometimes she chooses the shelter of a young fir tree. The egg very much resembles that of the Ostrich in miniature, being smooth, but indented all over with little dimples, as if pricked with a strong pin. It is somewhat bigger than a Turkey's egg, bulging considerably at the larger end, of a dull, yellowish white, and occasionally, but not always, spotted, or rather freckled, with a few small reddish brown marks. The new hatched chicks are striped on the head and neck with alternate stripes of dingy yellow and pale brown; their legs are of a dusky yellowish tinge. The under parts and breast are simply yellowish, of a colour something between gamboge and ochre. The first wing feathers are pale cinnamon, barred with brown, like those of a young hawk. The Peahen has a very pleasing low kind of note, like a common Hen, when she has young. At this time she often puts herself into curious attitudes, walking about with the head stretched out as far as possible, erecting the neck feathers, and frequently giving one the idea of a wooden bird.

There are two varieties of the common Pea-fowl, namely, the Pied and the White. The first has irregular patches of white about it, like the Pied Guinea-fowl, the remainder of the plumage resembling the original sort. The White have the ocellated spots on the tail faintly visible in certain lights. These last are tender, and are much prized by those who prefer rarity to real beauty. They are occasionally produced by birds of the common kind in cases where no intercourse with other White birds can have taken place. In one instance, in the same brood, whose parents were both of the usual colours, there were two of the common sort, and one White cock and one White hen. The old notion respecting them, which has given rise to serious theoretical errors and to many false inferences, is, that they originated in

the north, in Norway or Sweden ; the climate in which Ptarmigan, Snow Buntings, Alpine Hares, &c., annually put on a white livery, having made *them permanently* white. From some minds this false idea has yet to be eradicated ; it was the foundation of several of Buffon's boldest speculations respecting the influence of climate on the forms of animals, leading him to hazard the assertion, among others, that the Silver Pheasant is only the Common Pheasant changed to a lighter hue by migration to a more northerly region, while he forgot that the Silver and the Common Pheasant are both natives of the same districts of China and India, and that Aldrovandi, from whom he gleaned the error, instantly refutes it, by stating that White Pea-fowl are frequently hatched in Madeira and the neighbouring islands. Temminck has well discussed the Paon blanc in his *Hist. Nat. des Gallinacés*, tom. ii.

Nervous and fastidious persons object to their cry or call, which, indeed, is not melodious ; and a strip of woollen cloth is sometimes hung round their neck in the fashion of a collar, to silence them ; the appendage, however, is anything but an ornament, and the effect is not permanent. But I must take it to be an unhealthy symptom, when any natural or rural sound is displeasing to the ear. The cawing of rooks, the pattering of rain, the hum of bees, the pealing thunder, the laughter of children, the breezy rustling of a grove, the lashing of wintry and the sighing of summer waves, have all been felt by listeners in their happiest moods to be most musical—to have an effect more touching than any music ; and should, therefore, be welcome, instead of distasteful, to the healthy sense. And even the screams of Pea-fowl, ringing from a distance on a summer's evening, will suggest an abundance of images and recollections that cannot fail to interest any but the most dull and unimaginative minds.

The common Peacock was, till lately, supposed to be the only species of its genus ; but both preserved and

living specimens of the Aldrovandine Pea-fowl, which for a long while was supposed fabulous, have recently been introduced into this country. But there is also a third sort, which, on account of the confusion of synonyms, has not received from naturalists the attention it deserves. The difficulty has been increased by the conversion of "Japan," into "Japanned," by some writers. Japonensis, or Japonicus, are not, however, synonymous with Javanensis or Javanicus; Java and Japan are countries separated by many hundreds of miles of distance, even by many degrees of longitude and latitude. Yet Sir W. Jardine, in the "Naturalist's Library," gives the Pavo Javanensis as the same as the Japan Peacock. His figure imperfectly represents the Java bird, as also does that in Griffith's edition of Cuvier's "Animal Kingdom," although the title "Japan Peacock" is added to it. It is possible that both species may be indigenous in one or both of these respective countries, in which case the specific names are not wrong, but only confused.

I am not aware that any figure of the real Japanned bird has yet been published. Living Japan Pea-fowl are now (June, 1848) to be seen in London. In the Zoological Gardens they are labelled "Pavo cristatus," as if they were only a variety of the common sort; but Mr. Hunt, the intelligent and experienced head keeper, is inclined to consider them as specifically distinct, an opinion which is also strongly maintained by the Messrs. Baker, the eminent dealers in rare birds. It is for naturalists to decide the point; but if the Japan breed be only a variety, it is a very marked and permanent one, not departing from its character for generation after generation. The Japan Peacock is somewhat less in size than the common, the white patches of naked skin on the cheeks are smaller, the wings are blue-black, edged with metallic green, instead of being mottled like tortoise-shell, the imbricated feathers on the back are smaller and less conspicuous, and the whole colouring of the bird is of a darker tone. The hen, on the contrary, is very much

lighter than the common sort, with a tendency to spangled, perhaps even ocellated, plumage all over her body, and she has scarcely any glistening feathers on the neck; her size is also inferior, and her proportions more slender.

The records of the introduction of the Java Pea-fowl into Europe are clear and satisfactory; not so with respect to the Japan sort. By some the credit of the importation has been given to Lord Amherst. Sir Robert Heron, quoted in the "Penny Cyclopædia," states, "The japanned breed are, I believe, a variety originating in England. In Lord Brownlow's numerous breed of common, white, and pied, the japanned suddenly, in my memory, appeared amongst them. The same thing happened in Sir J. Trevelyan's flock of entirely the common sort; also in a breed of common and pied, given by Lady Chatham to Mr. Thornton: and in both cases to the extinction of the previously existing breed." (Zool. Proc. 1835.) This would appear conclusive did we not know the misadventures that have to be encountered by any newly imported rarity in the interval between its arrival in England and its safe delivery into its owner's hands. For instance, at the time when Chrysanthemums were being introduced from China at great trouble and expense, the first known specimen of the Paper-White variety, a novelty then, though nearly discarded now, was bought in Covent-garden market for sixpence; and the unique Ocellated Turkey, the glory of the Paris Museum, after surviving the voyage from the West Indies, was killed on the Thames by some one who, doubtless, intended to pluck and roast it. I must, therefore, attribute the sudden appearance of the Japan Pea-fowl to other causes than to a mere freak of Nature.

The Paon spicifère of Temminck and the Aldrovandine Peacock are the same. Aldrovandi's rude woodcut is the most truthful figure I have yet seen. The Earl of Derby is possessed of living specimens, forwarded from Calcutta, to which place they are brought from Burmah, and therefore where they bear the name of Burmese Pea-fowl, the

common kind being known by that of Indian or Jungle Pea-fowl. His Lordship has for many years been in the habit of breeding a considerable number of the "Japan" or "Japanned" birds, and, like most other persons, long laboured under the state of confusion in which their denomination is involved, but is now convinced that the last is really the correct one, from the extreme blackness of the shoulder portion of the wing feathers, which, in them, appear as if covered with a coat of the best japanned blacking; but in the common kind, which is the wild bird of the jungles of Continental India, this same part is clothed with feathers of a rusty brown, barred with dusky colour, and sometimes with a tinge of greenish. That the Japanned birds have a right to be considered as a distinct species, and not a mere accidental variety of the common Indian kind, appears to be clearly proved by the fact that not the male birds alone, but the hens and the chicks vary completely from the Indian or original, supposed, stock; and this, in the similar case of the Polish Swan, has always been acknowledged to be a proof of distinction. Both the hens and chicks are always white, and yet perfectly different in degree from the true White variety. I will, therefore, propose that the Japanned Pea-fowl be allowed a place in scientific zoology by the name of *Pavo picatus*.

The common kind has, probably, been tamed and domesticated ever since there have existed human eyes to admire it. Here is one tradition of its transmission to us:—

"The Pea-fowl is said to have been brought from the barbarians into Greece; and being for a long time rare, it was then exhibited for money to the admirers of beauty; and at Athens both men and women were admitted to examine it every new moon, and a profit was made of the show, and, as Antiphon says in his speech against Erasistratus, the male and female were valued at 1,000 drachmæ."—*Ælian*, lib. v. c. xxi.—which, if we take the drachma at $7\frac{1}{2}d.$, is 31*l.* 5*s.* the pair, a high price

certainly, but not more than a pair of very rare birds, such as the Ocellated Turkey, or the Apteryx, alive and in health, would fetch now in England, at the first bidding.

The remarkable point in this account is that the creature was not gratuitously exhibited, like the triumphal spoils of conquered nations, but was made a wild beast show, μισθοῦ, for a consideration, and as a matter of gain. One would like to know the price of admission, what sort of brass band performed before the doors, and whether the pictorial representations hung outside at all rivalled the brilliant display now made by Mr. Wombwell.

But the most extraordinary Peacock in the world, altogether unique, and likely to remain so, whose value reduces that of the Athenian birds to a mere nothing, and which is only to be approached in this respect by the goose which lays golden eggs, if we could find her, is kept at Windsor Castle ; and long may Her Majesty Queen Victoria continue in possession of it. Not being larger than an ordinary Hen, it consumes but little food ; and does no mischief in the gardens, being rarely permitted to go abroad. It would be cheap at 30,000*l.* : for independent of its worth as a trophy, and the strange history attached to it, its tail is made up of diamonds, and the rest of its body is composed of other costly materials, of which gold is the least precious. It is a specimen of Ornamental Poultry, not unsuitable to the monarch of Great Britain ; but if we may presume to guess at the tastes of the royal owner, more pleasure is derived from the sight of its living models than from the inanimate splendours of this glittering toy, although it does so far—

> "Outshine the wealth of Ormus and of Ind,
> Or where the gorgeous East with richest hand
> Showers on her kings barbaric pearl and gold."

THE MUTE SWAN.—(CYGNUS OLOR.)

"The peaceful monarch of the lake."—SCOTT.
"Solitudinem faciunt, pacem vocant."—TACITUS.
"They make a solitude, and call it peace."

THE Swan is, beyond all question, the bird to place, as a finishing stroke of art, on the smooth lake which expands before our mansions. It is perfectly needless, however delightful, to quote Milton and others, lauding the arched neck, the white wings, the oary feet, and so on. Its superb beauty is undeniable and acknowledged; and, to borrow an apt metaphor, we do not wish, in the present volume, to thresh straw that has been thrice threshed before, to repeat how lovely the Swan is on the silver lake, "floating double, swan and shadow;" for we might thus run, scissors in hand, through the whole Corpus Poetarum. Our object, in short, is simply to point out the best mode of managing them and keeping them.

Any one who lives on the banks of a moderately sized stream, and has a Swan-right on that stream, will probably also have the means of keeping a Keeper, who will save him every trouble. But there are a great many people, occupiers of large farm-houses, villas, country mansions, or moated residences, persons, perhaps, of considerable wealth, who have no manorial rights, no ancient Swan-mark belonging to their estate, but who would willingly pay for the maintenance of a pair of Swans and their annual brood of Cygnets, on inclosed or artificial waters, if they knew but how to order them aright.

Imprimis, then, they are called "Tame Swans," "Domestic Swans:" never were epithets more inappropriate, unless we agree to say, "tame Hyæna, tame Wolf, tame Rat, domestic Pheasant, domestic Swallow." They will come to their keeper's call, and take food from his hand; they will keep at home, when they are completely prevented from ranging out of bounds abroad: so far they are tamed and domesticated, but no further, and never will be. To compare the relations which exist between them and man, with those by which we retain the Goose and the common Fowl, is about as correct as to believe that the same temper and disposition influence the faithful Dog and the wildest Jackal of the wilderness. I put the case thus strongly, in order that it may be understood clearly. The comparisons may be a little exaggerated, but they will serve to raise the real truth into bolder and higher relief. Many systematic naturalists, of deserved reputation, have not been aware of the fact. Professor Low, speaking of the effects of domestication on birds, says,—"The Swan, the noblest of all water-fowls, becomes chained, as it were, to our lakes and ponds, by the mere change of his natural form."—*Domesticated Animals of the British Islands. Introduction*, p. liv. Chained, indeed! I should like the learned professor to see a pair of unmutilated Swans cleaving the air with extended pinions. He evidently takes the Swan to be a domesticated bird, and that it will not fly away, instead of that it cannot. Listen to this:—"I have never kept Swans myself, but those of some relatives a few miles off sometimes pay us a visit, performing their flight in an incredibly short time." *H. H.*—Waterton, who speaks only so far as he has seen, in his vivid essays gives a similar account of the proceedings of a Swan, whom he indulged in the free use of his wings, for the gratification of observing his graceful evolutions in the air.* But, at

* "Its powers of flight were truly astonishing. It visited all the sheets of water for many miles around. On taking its excursions into

present, the discovery, and introduction, and dispersion of a species of Swan, that would be really tame, and stay at home without being tied by the wing, as prolific, and having as valuable plumage and flesh as the common sort, would be one of the most valuable boons which the great London societies could now offer to the proprietors of limited portions of fluvial and lacustrine waters.

The following extract may give a valuable hint; unfortunately it does not state whether the pinioning knife had been used. "At the residence of the Governor of the province at Calix, I saw three Swans, which, having been taken when young, were as tame as Domestic Geese, to which these birds are so much alike in every respect, that I can have no doubt of their belonging to one genus. Their bill is flat and black at the extremity, as well as on the margins, convex and somewhat angular in the middle, so far at least that the swelling part terminates in an angle. The middle is fleshy where the oblong nostrils are situated; the base flat or quadrangular, with two sinuses pointing upwards, and pale-coloured. The margin is toothed, just like the Concha Veneris (Cypræa)." —*Linnæus's Tour in Lapland*, vol. ii. Mr. Yarrell, who, of all naturalists, is perhaps best acquainted with the nice distinctions that separate the various species of Swans, seems to refer the above account to the Hooper or Whistling Swan.

A service might thus be rendered to economical ornithology by fairly trying the Hooper, of whose tameability Linnæus speaks so highly; it is less graceful, however, bearing more resemblance in its attitudes and carriage to the Canada Goose. There is also the Polish Swan, that produces white Cygnets; and Bewick's Swan, if to be procured alive, might originate a stock of great value for limited pieces of water, since it averages in size one-third

the world at large, I would often say to it, in a kindly tone of voice as it flew over my head, 'Qui amat periculum, peribit in illo'; as I too clearly foresaw that foes would lie in ambush for it."—*Essays*, 2*nd Series*, p. 122.

less than the Cygnus Olor. None of the species can be less domestic than the Mute Swan, if it would really open its heart to us; but, being a "game" bird, of great pluck, it carries off matters with a high hand, and temporarily conceals its hatred of the trammels in which it is compelled to live; the very webs of its feet being sometimes slit, to retard it in its unkind chase after other water-fowl. It does not shrink from the severest weather which *we* experience, but faces the pelting storm, as if anchored, in the most exposed parts of the lake. For those to whom amount of purchase-money is of little importance, there is the Black Swan, a creature of much gentler manners, less in size, less tyrannical to other birds, and indeed altogether taking in its ways. It is strange that their price should still continue so high, as they breed in this country, frequently, though not abundantly, under circumstances that must be considered unfavourable. I suspect from the localities in Australia where they were originally found, that they would thrive all the better for an occasional marine diet, and, like the Sheldrake, enjoy now and then a treat of cockles and shrimps, with perhaps a barrowful of seaweed as the joint on which to cut and come again.

Those who wish to make themselves acquainted with the habits and dispositions, as well as the mere figures and descriptions of animals, should be informed that all living creatures cannot be divided into two distinct ranks of Wild and Tame, as, for example, the Horse and the Zebra among quadrupeds, and the Blue Rock Pigeon and the Ringdove among birds, just as they would separate the red and the white men on a chess-board, but that there is a most perplexing intermediate multitude, neither wild nor yet tameable, but usually spoken of as "familiar" or "half-domesticated," a term without meaning—dodging, like camp-followers, on the offskirts of human society, but determined never to enlist in the drilled and disciplined ranks, playing the game of "off and on," but always ending with the "off." Such are, among many others,

the Partridge, Rats and Mice, the House Sparrow, the Water Hen, and at a still greater distance, I believe and fear, the whole genus of Swans proper.

Is there nothing resembling this amongst the human race ? The mention of the word "Gipsy" will set thought-capable persons a-thinking. "Oh ! but they have been neglected, uneducated, ill-cared for ! Educate ! Educate !" say well-intentioned persons, who seem to declare that the soul of man is a *carte blanche*, and who would thereby, unthinkingly, deny the doctrine of Original Sin, as asserted by the Church of England. But I have seen enough both of bird and mankind to know that the heart of neither is a *carte blanche*—you cannot write on either, whatever it may be your pleasure there to inscribe. Your duty, in both cases, is to take them as you find them, and make the best you can of them for their interest, which will be found eventually to coincide with your own.

Swans, then, are *ferœ naturœ* to all intents and purposes ; of that there is no doubt, whatever the law of the matter may be : but, although capricious birds, wild in their very nature, like most living creatures they have some attachment to place. The first point, therefore, is to settle them agreeably in their destined home. Old birds are less likely to be contented with a new abode, unless very distant from their former one, and are seldom to be obtained in the market. Cygnets may be procured every autumn ; if they have been put up to fat for some time, so much the better, as they will the sooner become tame, and contented with a small range—which I am supposing to be the thing required. The disadvantage of having Cygnets to begin swan-keeping with, is, that they are less ornamental till they have attained their perfect plumage, and the proper orange colour of the bill, and that they do not breed till their third year. It is not, however, generally known that the male is capable of increasing his kind a year earlier than the female ; so that a brood may be obtained from an old hen, and a cock-

bird in his second year. In selecting a pair, the great thing is to make sure of having two birds of opposite sexes. Two cock-birds will not live together, and their mutual aversion would soon show that all was not right; but two hens will—which is the case also with Pigeons. A friend of mine procured a couple of Swans; they were affectionate and happy in each other's society: in due time they made their nest and laid. Great were the expectations; such a plenty of eggs! both Swans assiduous in sitting—rather suspicious that—the produce addle-eggs. The two ladies could not raise up a family between them.

In selecting any water-birds whose plumage is alike in both sexes, and which cannot therefore be distinguished with certainty, the best rule is to see them in the water, and take that which swims deepest for the female, and that which floats with greatest buoyancy for the male, remembering that all creatures of the masculine gender have the largest lungs in proportion to their size. The neck of the cock-bird is usually thicker. An experienced eye will, besides, detect a certain feminine gentleness and modesty in the one, and an alacrity and boldness in the other, which is a tolerably safe guide, as well as an appropriate and becoming attribute to the creatures themselves. It is cheaper in the end to give a fair price for a pair of old, well-seasoned birds to begin with, than to undergo the care, the delay, and perhaps the disappointment of nursing Cygnets through their youth of three long years' duration. Brightness and clearness of the orange on the bill, and full development of the knob or "berry," indicate the complete maturity of the bird. Supposing, however, the reader to have obtained two Cygnets that are not mere friends, but actually husband and wife, he will recollect that those reserved for fatting are never pinioned, lest it should check their progress, and he will request the operation to be performed before he has them home, in order that they may have the fewest possible disagreeable reminiscences connected with the spot where they are to spend their lives. There are two ways

of pinioning birds; at the elbow joint, and at the wrist. The amputation of the part of the wing which corresponds to our hand is quite sufficient to prevent the flight of the short-winged species, as far as migration is concerned, disfigures them less than the closer pruning, and still leaves them the means of escape from a dog or a poacher, allows them now and then in their gambols to fancy they are free, and to enjoy a sort of half-run, half-fly from the lawn into the water. Kindness, comfort, and good feeding must be employed to keep them at home as far as possible; but the loss of the last joint only of the wing will not be enough to prevent Swans from joining any travelling companions who are on the way to the Arctic circle. I should recommend the female to be pinioned at the wrist, the male at the elbow, trusting to their mutual attachment to keep the less-maimed bird from deserting her mate. But however it be done, let it be set about in a workmanlike manner; no chopping nor hacking, nor hewing, nor butchering. Many Cygnets are annually killed by the clumsy way in which their wing is lopped off. They suffer from the shock to their nervous system as much as from the hæmorrhage.

A skilful operator will feel for the joint, divide the skin, and turn the bone neatly out of the socket. I will allow him to shed just one drop of blood—no more. I would be as hard upon him as Portia was upon the flesh-cutting Jew.

> "This bond doth give here no jot of blood;
> The words expressly are a limb of swan;
> Take then thy bond, take thou thy limb of swan;
> But, in the cutting it, if thou dost shed
> One drop of cygnine blood, thy clumsiness
> Shall brand the name of 'Bungler' on thy back,
> Therefore, prepare thee to cut off the limb,
> Shed thou no blood; nor cut thou less, nor more
> But just the very limb; if thou tak'st more
> Or less than just the limb, thou shalt bewail
> The consequence."

If any brook runs into and from the pond where they are to remain, their escape through that channel must

be prevented by sheep-netting, hurdles, pales, or other fencing, which should be continued some distance inland, lest they should walk away, if they cannot swim away. This precaution will be found particularly necessary if there is any main stream in the immediate neighbourhood. A feeding trough may be fixed for them in the pond, in the part where it is most desirable that they should be accustomed to display themselves. Those who are fastidious about the sight of such an object, or who wish to have it thought that the Swans keep so much in view from purely disinterested motives (from simple affection to their masters, not from the greedy love of corn) may contrive to have it hid beneath a bank, or behind a tree or shrub. The trough must be fixed in the pond on two firm posts, within arm's length of the shore, raised high enough from the water to prevent Ducks from stealing the food contained therein, having a cover which lifts up by hinges, and so forms a lid, to keep out rats and sparrows, and open only in front. Many persons, however, feed their Swans by simply throwing the corn into shallow water. They will skim the surface for the light grains which float, and then submerge their heads in search of that which has sunk. Should any Carp (that fresh-water Fox) be occupants of the same lake, it will be found that they soon learn the accustomed hours of feeding, and will come to take their share along with their feathered friends. But it is cruel to locate a pair of Swans, for the sake of their beauty, in a new-made piece of water whose banks and bottom are as barren and bare as the inside of a hand-basin. A load or two of water-weeds should have been thrown in, the previous spring, to propagate themselves and afford pasturage. Sometimes after an old established sheet has been cleansed at a great expense, it is thought that Swans would now look well there, and they are forthwith turned in, to be starved; whereas they would thankfully have undertaken the cleansing task for nothing. Swan-food exists in proportion to the shallowness and foulness, not to the extent and clearness of the

water. A yard of margin is worth a mile of deep stream ; one muddy Norfolk broad, with its oozy banks, labyrinthine creeks, and its forests of rushes, reeds, and sedges, is better, in this respect, than all "the blue rushing of the arrowy Rhone," or the whole azure expanse of the brilliant Lake of Geneva.

In confined waters Swans require a liberal supply of food in the autumn, when the weeds run short. It should be remembered that at this season they have to supply themselves with a new suit of clothes, as well as to maintain their daily strength. If they have not been taught to eat corn, and have not acquired a notion of grazing, they will perish from starvation as undoubtedly as a canary bird neglected in its cage. Young birds are apt to be fanciful or stupid, and have not sense enough to come on the bank and eat grass, or pick up the threshed corn that may be thrown down to them. Sometimes they may be tempted with a lock of unthreshed barley or oats, thrown, straw and all, into the water, which they will instinctively lay hold of and devour. Cygnets which have been previously put up to fatten, will give little or no trouble in this respect, besides the advantage of being accustomed to the near approach of a keeper.

In one week I lost two Swans, a Cygnet, and a year-old bird, from the consequences, I fear, of a few days' short diet at moulting time. Suspecting foul play from some ill-natured person, I caused a post mortem examination to be made of that which died last ; but, in a literal sense, nothing could be found. The poor thing was empty and emaciated, though it had been fed with corn two or three days before, and though it had only to ascend a bank a foot high to enjoy a plentiful feast of good grass. It had been seen sailing about in apparent health and spirits the previous evening, and my mind is not yet quite satisfied about the subject. The following remarks may perhaps afford some clue in similar cases.

"Swans wandering by night, in search of watercresses

chiefly, are always in danger from the different vermin which prey upon poultry and game—weasels, stoats, polecats, &c. And Swans thus destroyed exhibit no wounds or marks upon the body; but upon the head and neck, where, on a minute inspection, the wounds are discovered through which the vermin have sucked the life-blood, leaving the bulk so little affected that the feathers are unruffled. The wounds appear scarcely the size of a pin's head, but are generally above half-an-inch deep. Geese and Turkeys are also liable to be destroyed by these nocturnal marauders, which, like all beasts of prey, sleep throughout the day."—*Moubray on Poultry*, 8th Edition, p. 128.

One would doubt the fact of so large a bird as the Swan falling a victim to a wretched little weasel. But a relation of mine had a pair of Canada Geese, birds little inferior in size to the Swan, which in the breeding season were suffered to shift their quarters from the farm-yard, their usual abode, to a neighbouring broad, where he had rights. After a time one bird returned home alone, and its missing mate was at length discovered, half-decomposed, on a sedgy islet in the broad in such a position as to indicate that it had been surprised and killed by one of the larger weasels, a stoat or a polecat.

Considerable difference of opinion has been entertained respecting the diet of the Swan; some supposing it to be exclusively vegetable, others believing that fish enter largely into it. My own observations tend to prove that a very considerable part of their nutriment is obtained from minute insects and molluscs. The sluggish, weedy waters, where Swans thrive best, abound with such creatures; and the Whale is a sufficient example that the size of the prey is no index to the magnitude of the creatures that subsist on it. Swans fall off in condition very rapidly in autumn, however liberally they are supplied with corn, immediately that the temperature drops to any extent, and the minor inhabitants of the pools disappear into their winter retreats. A very small fish might now

and then not come amiss to them, and spawn would be greedily devoured. A Swan must be considerably more destructive in this respect than the poor little Water Ouzel, which is so bitterly persecuted along the salmon-streams of Scotland, for the alleged injury it does to the ova of the fish. The seeds of grasses, and the soft starchy parts of aquatic plants, are no doubt a considerable portion of the daily ration of the Swan. It seems to prefer sloppy, half-decayed vegetation, to that which is fresh and crisp. Spare garden-stuff, spinach, and such like, thrown out for them, is liked all the better for having lain soaking at least twenty-four hours, that is, in such time as it has become sodden and attacked by small fresh-water shell-fish. If their mode of feeding is watched, it will be found to countenance the popular belief that many birds live "by suction;" they appear to suck down the pappy food, which pleases them best, rather than fairly to crop and swallow it.

Consequently, there is no bird in the least comparable to the Swan as an agent for clearing a pond of weeds. It does not, however, eat all weeds indiscriminately; it seems scarcely to touch the water-lilies, white and yellow, except perhaps in a very young state, though it no doubt checks their increase by seed. These, when too numerous, may be uprooted by means of a long pole armed with an iron claw, and used either from the shore or from a boat; once detached from their moorings they may be floated away. Swans seem to prefer, first, what we call the lower forms of vegetation, the Confervæ and the Characeæ, then the Callitricha aquatica, or Water Starwort, and the long list of Potamogetons, or Pond-weeds: the rhizomata of all sorts of reeds, rushes, arrow-heads, &c., are greedily torn up and devoured. A lake of half an acre in extent is quite large enough (with the assistance of corn, refuse vegetables, and grass-clippings, when the weeds run short) not only to maintain a pair of Swans, but to supply an acceptable lot of fat Cygnets every autumn. Swans have been kept successfully in a much

more limited space. But in one instance within my own knowledge, where the extent of water is not a quarter of an acre, the annual brood, as soon as they entered the pond in company with their parents, were devoured by some enormous pet pike that equally shared their owner's favour—a hint that one cannot breed Swans and fresh-water sharks at the same time and place.

The Swan, consuming the submerged refuse of plants, is thus the scavenger of the waters, as the Hyæna and the Vulture are of the land. In such countries as Holland, and still more about the deltas of large rivers in the south of Europe and western Asia, their influence must be very beneficial. Indeed, we are compelled to believe that they have been bountifully created to fulfil this office of cleansing the half-stagnant water-courses. Unlike the old dragons that could exhale a pestilence and infect a whole district with their breath, these winged tenants of the marsh swallow many a plague and fever up. Not a little miasma has travelled harmlessly down the throats of Swans, They can fatten on poisons, although ignorant of King Mithridates, his antidote.

A curious instance of the animal diet of the Swan once occurred to myself. The common brown shrimp, it is well known, inhabits, and thrives in waters less strongly impregnated with salt than the open sea, which is not the case with several other species : and I was desirous of trying whether it were possible to stock with them a piece of water absolutely fresh. A quantity were procured and brought home in a fish kettle of tidal river-water ; but the heat of the weather at the time was much against the success of the experiment. On arriving at their journey's end, the great majority were dead. They were all, however, turned out together : a few swam off apparently unaffected by the unwonted element, and were never seen or heard of afterwards ; the rest sank to the bottom ; when one of my Swans, expecting her feed of corn, sailed up, and began feasting on the dead shrimps, crushing

them in her bill before she swallowed them, and appearing much to relish her meal.

The difficulty there sometimes is in getting Swans to eat corn, or to graze like Geese, shows that either diet is with them an acquired taste.

At the proper age and season they will show a disposition to breed, if well fed, although restricted within comparatively narrow limits. As soon as they have decidedly fixed upon the spot for their nest, it will be an assistance to take them two or three barrowfuls of coarse litter. Sedges and rushes are the best, with perhaps a few sticks, which they can arrange at their own pleasure, The number of eggs laid will vary from five or six to ten, but the number of Cygnets hatched seems, like the fall of lambs, to depend much upon the season and the weather of the few preceding months. One year the three pairs of Swans nearest to me had each a brood of nine—twenty-seven Cygnets in only three families. But this is above the average. I have, however, seen seven reared on a very small moat. It is better not to gratify any unnecessary curiosity respecting the eggs; indeed the parent birds will hardly allow it. The cock makes great show, and often more than show, of fight against interlopers. A blow from his pinion on land is better avoided; and in the water he would bother the strongest swimmer to escape from his fury. I was once attacked by a Swan when walking too intrusively near his lady's lying-in bed; he was keeping guard by sailing in short tacks backwards and forwards before her, but he left the water to give me a forcible hint to go about my own business. The only thing was to meet the threatened danger; so seizing his neck in one hand and his outstretched wing in the other, I tossed him as far into the middle of the stream as I could. He seemed a little astonished for a few moments, but lashing the waters into foam he would have renewed the attack had I not speedily withdrawn from his dominions. Coming to close quarters with them is the surest mode of defence. The blow of a Swan's wing, to take

effect, must hit from a certain distance. It is clear they are mischievously minded at such times; but I think that the real danger to be apprehended has, from policy, been exaggerated, that it may act as a sort of guardian dragon to the tempting fruit of the Hesperides. There are possibly persons living who would not be unwilling to have it believed that Hares and Pheasants are most formidable creatures to encounter especially on moonlight nights.

The Cygnets when first hatched are of a slaty grey, inclining to mouse colour. The time of incubation is six weeks, or thereabouts. A common notion in Norfolk is that the Cygnets cannot be hatched till a thunder-storm comes to break the shells, and that the hen will go on sitting till the birth of her young ones is complimented with that portentous salute. A Swan might boast with Owen Glendower—

> "At my nativity
> The front of heaven was full of fiery shapes,
> Of burning cressets; know, that at my birth
> The frame and the foundations of the earth
> Shook like a coward."

Let us not reply in the contemptuous language of Hotspur, nor altogether reject the popular idea; the close sultry weather which sometimes for two or three days precedes a tempest, would hasten the development of chicks that were nearly arrived at the hatching point. What effect electrical oscillations have on animal life we as yet know not, but our own feelings tell us they have some.

The happy parents will charge themselves with the entire maintenance of their tender young, if they have but the range of a large extent of river banks and shallow water; will lead them up the quiet ditches, point out the juicy blade, the floating seed, the struggling insect, the sinuous worm; will then steer to shoals left by some circling eddy, and, stirring up the soft sediment with their broad feet, show that minute but nutritious particles may thence be extracted. As hunger is satisfied and

weariness comes on, the mother will sink in the stream till her back becomes an easy landing-place, and the nurslings are thus transferred in a secure and downy cradle to fresh feeding-places.

But in a restricted beat they must not be left altogether to themselves. A gently sloping bank will enable them to repair at pleasure to the grassy margin. The old ones must have plenty of corn, which they will by and by teach their young to eat; tender vegetables from the kitchen-garden, such as endive, lettuce, or cress, will help to sustain them, besides attracting those soft-bodied water-creatures that are of all food the most needful. Pollard frequently scattered on the surface of the pond will be of material assistance; and whatever it is found that they will eat, let them have in the greatest abundance. Their growth is rapid; their weight should be considerable, with but little time to acquire it in. The period cannot be extended much longer than from June to the end of November. By Christmas they must all either be eaten, or have emigrated, when the parents will begin to direct their thoughts forward to a succeeding family. Confined Swans sometimes get a sort of quid of mud, fibres, and gravel under their chins, which it is as well now and then to examine and clean out.

A fat Cygnet is a capital dish, and deserves a higher repute than it generally obtains. Its stately appearance on the table is alone worth something. Those who have only a good-sized pond—say from a quarter to half an acre of water—may rear and fat an annual brood. In so small a space, the old birds must of course share with their young the extra supply of fatting corn; but they will get through the winter the better for it, and be more prolific in the spring, Neither they nor their Cygnets should at any time be allowed to become poor.

When Cygnets are removed from their parents to be fatted in a regular Swan-pond, it is usual to separate them at the end of August or the beginning of September. At first, grass is thrown into the water to them twice a day

with their other food; but this is not continued for more than a fortnight. A coomb of barley is the established allowance to fat each Swan. The corn is put into shallow tubs set just under water. The birds are considered worth from 10*s*. to 12*s*. each when they are "hopped" or "upped" from their native streams; but when brought into prime condition, 2*l*., formerly 2*l*. 2*s*. They may occasionally be had for less, in which case they make a cheap as well as a handsome dish to set before a large dinner party. Their weight in the feathers varies from 25lbs. to 28lbs., and sometimes, though rarely, 30lbs. They are never better than in the month of November, when the gastronomical enquirer, who is as yet unacquainted with their merits, is recommended to give them a fair and impartial trial. They may be had till Christmas, after which they are good for nothing. A bird weighing 28 lbs. before Christmas, has been known to shrink to 17 or 18 lbs. by the end of January, in spite of high feeding. Therefore, make hay while the sun shines, Mr. Epicure. As, in the spring, the snowdrop gives way to the primrose and the violet, so, in autumn, the Swan yields its place on the board to the Turkey and the Guinea-fowl. If to-day is lost, to-morrow the opportunity will have flown, in higher concerns than mere eating and drinking. Now—or, perhaps, never.

The Swan-feasts that seem to have left the most pleasing impressions on the palates of the partakers have been solemnised as early as the month of September. As to the mode of dressing, those artists who are skilled in the treatment of venison will easily cook Swan, viz., with a meal crust over it to keep the gravy in. Instead of stuffing it with sage and onions, like a Goose (vulgar condiments to vulgar birds), use rump-steak chopped fine, and seasoned with cayenne and salt. When browned, and served to an admiring circle, let it have rich gravy and currant-jelly, the latter hot as well as cold, in respectful attendance.—And is that all? No; the best remains behind. The hash next day is worth riding

twenty miles to eat. Nay, more; the giblets make soup before which ox-tail sinks into insignificance. The mere writing about it has made me hungry. Mr. Yarrell gives some information on the subject, which I will not wrong him by pirating. See "British Birds," vol. iii. p. 127. He has also collected a curious list of swan-marks.

I will mention two instances of Swans doing well in a very small scope, as an encouragement to those who are inclined to establish a couple of these fine birds where there may be but little apparent accommodation for them.

The first occurred some years ago at Bircham Tofts in Norfolk. A single Swan, driven out or wandering from Houghton, it was supposed, but never known exactly, took possession of a pond, and not being claimed remained there several years. It was not fed, but we may believe that in hard winters some charitable farmer threw it a little dross corn; and so it continued happy and well. But in the same parish there was, at a short distance, another and a smaller pond, to which the Swan would occasionally walk when provisions fell short in his original residence. In one of these removals he was stoned by the village boys, and so much injured that he died. Being desirous to know whether there was any peculiarity in the aquatic vegetation of the pond, which rendered it capable of supporting such a large bird so constantly, I requested to have a sample of weeds taken from it at random, and was most obligingly supplied by the occupier. But there was nothing which may not be found in every other pond in the county—brook-lime, persicaria, myosotis, and the commonest weeds. How far worms, larvæ, and small molluscs may abound, I am unable to say.

The second case, which must be well remembered by all travellers from Norwich to London by the Bury road, is at Long Stratton, in Norfolk, where Swans have for some years been kept in the smallest piece of water I ever saw occupied by them, and yet they have always appeared healthy and contented. The water is exposed to the high road without any fence whatever, but an iron railing,

and the Swans became so tame as to eat from the hand of casual passers by. But owing to ill-nature, or mere mischievousness, perhaps, there has been a sad succession of individual specimens. About thirty years back a pair of Swans were put into this very small pond or canal, which lies before the mansion of the Rev. Ellis Burroughes. This pair remained there about fifteen years, but never bred, probably on account of their limited scope and confined and exposed situation. However, they kept the water quite free from any weeds, and also fed upon the grass that grew by the water's edge. They were besides constantly supplied with a quarter of a peck of oats every morning during the summer months, and in winter their supply of dry food was increased in proportion to their wants. They also got many odd bits of bread from the neighbours, which they would eat if thrown into the water; they were very fond of the leaves of crowfoot, and were familiar enough to take them from the hand. After this it is grievous to be informed that one of them was stoned to death (as was believed), and that at the end of a few months the survivor met with a similar fate. It is melancholy to reflect that there should be in the world envious and malignant people who mutter to themselves in this sort of spirit: "Ah! you're a very great person, keeping Swans and so on! You think they look very grand sailing before your house! You're getting up very fast! Other people can't keep Swans, but other people are just as good as you. You think nobody can let you down a peg, do you? We 'll see!" And next day the ornament of the neighbourhood is found mutilated or murdered.

It is needless to go through the list of fresh arrivals that were successively maltreated and destroyed, but we will hurry on to the last, a beautiful and majestic bird, of which after a residence of four or five years, my informant writes, "for shame be it spoken, some villain broke his neck, and now (March 1848) there are none."

This last instance enables us to make a rough estimate of the cost of maintaining a pair of Swans. Those at

Stratton had a quarter of a peck of oats a day in summer. But in less incommodious places, and where garden rubbish was supplied, two pecks a week would be a fair allowance for all the year round. This amounts to $6\frac{1}{2}$ coombs per annum. Take the oats at 15*s.* per coomb, as, if they are to be bought, the best are the cheapest, and the annual expense is 4*l.* 17*s.* 6*d.*—a sum soon spent in clearing an artificial lake by human labour. On the other hand, half a dozen Cygnets ought to be reared, and cannot be set down as worth less than 10*s.* each. Any farmer who has plenty of tail corn, will have no occasion to buy anything for them, as he can send a little of that to be ground for the Cygnets, and it will be better than heavier meal, that would not float so surely. But if the swan-keeper be hospitably disposed, and choose to eat the Cygnets with his friends, instead of selling them to the dealers, the brood cannot very justly be brought over to the credit side, of his cash account at least.

The learned have discovered a number of mysterious convolutions of the trachea in this genus, but it is doubtful whether all their researches have enabled them to match the subjoined amusing instance from the "Ortus Sanitatis," or "Garden of Health," a rare old book printed in 1491, and enriched by numerous illustrations, that are attributed to Albert Durer.

THE TURKEY.

"There is no poor animal so beset with ignorant and destructive empiricism, on its first introduction into life, as the Turkey."—A. W.

If we call to mind the many and valuable acquisitions, from both the animal and vegetable kingdom, which have been made subservient to the use of Man within comparatively a very recent period, it is not too much to believe that others, of nearly, or quite equal value, still remain to reward the labour and pains of a persevering search. There is the whole of central Africa, central Australia, great part of China and northern India (which have already afforded us so much), and innumerable half-explored or unexplored islands, all waiting to be ransacked for our benefit. And without depending on those distant regions, we know not yet what we may find at home; seeing that the delicious Seakale—an esculent whose merits are yet unknown to many a family of competent means living in retirement—has only within the last few years sprung up under our very feet; and the Capercali, by an easy importation, has been rescued from extinction in Great Britain.

Among the living tributaries to the luxury of Man, the Turkey is an example of the results yet to be expected from the exploring spirit of our day. It is the most recent, and, except the Hen and the Goose, the most valuable of our domesticated birds. We may, indeed, call it quite a new introduction; for what, after all, is a period of three hundred years compared with the time during which Man has had dominion over the earth and its brute inhabitants? The obscurity which hangs over

the transmission of the Turkey from America, and which there is little chance of clearing away, except by industrious ferreting amongst old family records and memorandum books, shows that those who brought it to the Old World had no idea of the value of what they were importing; but probably regarded it like any other remarkable production of nature—a Macaw or a Tortoise. The young would be distributed among friends with the same feeling that Golden Pheasants and such like are with us; these again would thrive and increase, and the nation would suddenly find itself in the possession of a race, not of pleasing pets, but of a valuable, prolific, and hardy stock of poultry. Such I take to be the history of the Turkey in England;* and the Zoological and Ornithological Societies may hereafter find that some creature that was disregarded, or undervalued, or even yet unobtained, will prove unexpectedly domestic and profitable (it may be the Cereopsis, some of the Indian Polyplectrons, or the elegant Honduras Turkey); to further which great object of their association they cannot do better than communicate spare specimens, on the most liberal and encouraging terms, to such persons as they believe competent fairly to test their value.

The varieties of the domesticated Turkey are not very distinct. The most so is the Norfolk; others may nearly all be swept into what is called the Cambridge breed (thus including the Bustard breed and the Dutch copper-coloured), which, however, is as much cultivated in Norfolk as the old local stock, and birds of which kind often pass for true Norfolks, because they have been procured

* The Norfolk Archæology, Vol. I., gives a bill of fare of the Coronation dinner of King Henry VI., A. D. 1429, communicated by the Rev. G. H. Dashwood, and one dish in the third course is "Great Birde;" of which he remarks, "perhaps the Bustard. The Turkey was not introduced into England till about the year 1524. I recollect being told some years since by one of the family, that an ancestor of Sir George Strickland, Bart., brought the first to this country; what truth there is in the claim of the introduction of this delicacy, I know not, but the Stricklands bear a 'Turkey-cock in his pride' for their crest."

from that county. The real Norfolk Turkey is more hardy, but less ornamental than the others, and of smaller size. It is entirely black, except the red skin about the head, and a brownish tip to the feathers of the tail and some of those of the back. This gives the bird a rusty appearance, like an old piece of well-worn cotton velvet. The Cambridge sort, when black, have a beautifully shining bluish tinge, like a well polished boot. The chicks of the Norfolks are black, with occasionally white patches about the head; those of the Cambridge variety are mottled all over with brownish grey, and are of taller and slenderer proportions. The plumage of the Cambridge breed varies very much; sometimes it is entirely made up of shades of reddish-brown and grey, when it is called the Bustard-breed; sometimes of grey, black, and white, but frequently it approaches very nearly to what we see figured as the wild bird. Owing to the early age at which our birds are mostly killed, the tuft on the breast of the hen is seldom so conspicuous as is represented in the hen of the Wild Turkey, in the "Naturalist's Library," copied from Audubon.

The pure White Turkeys are very elegant creatures, and though the most tender of all to rear, are not so in anything like the same degree as the White Peafowl. It is well known that most birds, wild as well as tame, occasionally produce perfectly white individuals, of more delicate constitution than their parents. We cannot doubt that the selection and pairing of such is the way in which the breed of White Turkeys has been established and kept up. However, with all care they will now and then produce speckled birds, and so show a tendency to return to the normal plumage. It is remarkable, that in specimens which are else snow-white, the tuft on the breast remains coal-black, looking, in the hens, like a tail of ermine, and so showing as a great ornament. The head and caruncles on the neck of the male are, when excited, of the same blue and scarlet hues. Thus the creature, with small portions of black, blue, and scarlet

relieving his snowy and trembling flakes of plumage, is truly beautiful; and some few farmers keep them, in spite of the disadvantages attending them. A merit is, that they dress most temptingly white for market. But they are unsuited for miry, smoky, or clayey situations, and show and thrive best, when they have a range of clean, short pasture, on a light or chalky subsoil.

The American Turkeys are merely a recent importation from the New World, of birds whose progenitors were not many generations back in a state of nature: they are, in short, fresh blood from the primæval forests. The most striking point in which they differ from the best plumaged of the Cambridge breed, is the extreme brilliancy of their changeable metallic tints. In all the coloured Turkeys these glancing tints depend much upon condition. An experienced eye will at once see whether poultry is in good or bad condition, from the look of the plumage, just as a groom would pronounce upon the smooth or staring coat of his horse. But the American Turkeys are ever pre-eminent in this respect. They are also more hardy, lively, game-like, and self-dependent, searching for their food like Pheasants. Those who have kept them, pronounce them to be the most profitable and best-tasted breed, as well as the handsomest. The metallic hues of their back feathers, when seen in the sunshine, are quite dazzling. The Rev. W. D. F., to whom we are indebted for admirable specimens, says, "I have always believed these birds to be descendants of the true wild breed brought immediately from America. The owners of them have constantly laid claim to this; in proof whereof I may mention an anecdote which occurred some years since. At that time Earl Powys was reputed to be the only possessor of these, and I believe he imported them. On one occasion the earl presented George IV. with a fine black charger, which was graciously received; but the king is said to have remarked to those in his confidence, that a horse was of no use to him, as he could not ride, but that Earl Powys

did possess something which he should much value. This was reported to his lordship, and after some difficulty it was found out that a pair of American Turkeys would be most acceptable, and they were sent. I merely mention this to show that their wild descent was believed in high quarters. The late Lord Leicester was also said to possess the wild breed; and I well remember his telling my father they were so, and remarking that they got their food so much more readily than the tame kinds. I originally had my breed from Lord Leicester, and have since crossed them with Earl Powys's. The two breeds differ in the latter having the wing feathers, or rather quills, barred with white, while Lord Leicester's are wholly dark. Both cocks and hens are beautifully metallic, far more so than any breed that I know. The shape of the hens is also more elongated, and there is a sprightliness about the head, which is also better shaped. Audubon's plate of the Turkey strongly reminds me of my own. Much of this may be fancy; yet I have not a doubt upon the subject, but believe that they are genuine wild American Turkeys. They also invariably lay later than the common breeds."

A great point in this account is, that the birds are descended from recently wild ancestors, and have not merely been lately brought from America. For *this* query suggests itself to our mind: Are the majority of the American farm-yard Turkeys the progeny of individuals domesticated from the forest; or, is it not possible that some at least of the colonists may have taken out with them tame Turkeys from England as stock, and so founded a farm-yard race for parts of America? Such a plan would most likely be less troublesome than the task of taming fresh-caught birds or their chicks. If this has ever been the case, it will be a curious return for us to have made, of an enslaved race, to the continent to which we owe the original existence of the species amongst us. Some slight notice of the Crested Turkey may be expected in these pages, as Temminck (*Pigeons*

et Gallinacés, vol. ii. p. 387) says that it is "only a variety or sport of nature in the species; it only differs in that it has a crest of feathers, sometimes black, sometimes white; and these crested Turkeys are sufficiently rare. Mademoiselle Backer formerly kept in her magnificent menagerie, near the Hague, a flock of Turkeys of a beautiful Isabelle yellow, approaching to chesnut; they all had an ample crest of pure white." Albin, publishing in 1738, gives (vol. ii. p. 30) a coloured print of the white-crested Turkey, and says, "This bird I saw in the possession of *Henry Cornellyson*, Esq., beyond *Chelmsford* in *Essex:* it was of the Bigness of the common *Turkies*, having a beautiful large white Copple on its Crown or Top of the Head." We do not see such freaks of nature now; nor does a Turkey's head, with its moveable and erectible skin, look a likely place for a plume of feathers to start from. Such a *lusus* has never occurred in the great Turkey-breeding counties of Norfolk, Suffolk, and Cambridgeshire, and the appearance of the monster would be sure to be observed there, if it took place. We therefore may suspect the Crested Turkey to be, like the Crested Guineafowl, a distinct species, and that it has failed to propagate, and so is no longer to be seen amongst us. The suspicion is confirmed by finding in "Wild Life in the interior of Central America, by George Byam, 43rd Light Infantry," at p. 154, and the following, an account of the discovery of Crested Turkeys in a state of nature, which is too long to extract. But the subject is most perplexing, and interesting from its very mystery. A solution may possibly be effected by the noble efforts which the Earl of Derby is unceasingly making to further the advance of zoological knowledge.

One reason why the Turkeys seen in our poultry yards do not vie in splendour of plumage with their untamed brethren, is that we do not let them live long enough. For the same cause we seldom witness the thorough development of their temper and disposition. A creature that does not attain its full growth till its fifth or sixth

year, we kill at latest in the second, to the evident deterioration of our stock. But let three or four well-selected Cambridge Turkeys, or the before-mentioned Americans, be retained to their really adult state, and well fed meanwhile, and they will quite recompense their keeper by their beauty in full plumage, by their glancing hues of gilded green and purple, their lovely shades of brown, bronze, and black, and the pearly lustre that radiates from their polished feathers. In default of wild specimens, birds like these are sought to complete collections of stuffed birds.

The demand for such large birds among the fowl-dealers, and the temptation to fat them before they arrive at this stage, are so great, that few farmers' wives can resist sending their eighteen or twenty pound "stag" * to market, while a young cock of the year, they think, will answer every purpose next spring as well. Some even deem it an extravagance to keep a Turkey-cock at all, if they have not more than two hens, which they would send on a visit of a day or two to a neighbour who has a male bird. A case is recorded in which such a visit, made in the July or August of one year, was available for the eggs of the succeeding April. The time when the hens require this change of air in spring, may be known by their lying down on the ground, as if they were unwell; doing so immediately again, if taken up and made to walk on, which apparent languor is accompanied by a lack-a-daisical love-sick expression of countenance. One Christmas we ate or gave away all our Turkeys (including a magnificent stag, whose image haunts us still), except a single hen. The above-mentioned plan was necessarily adopted; and the result was, from eleven eggs, eight chicks so strong as almost to rear themselves. The same system has been

* In Norfolk, Turkey-cocks are called stags from their second year upwards. A bird of the same year weighing, when dressed at Christmas, 16 or 17lbs. is unusual and considered very good. The extra weighty birds shown by the London poulterers are of a corresponding age.

occasionally tried with Fowls, and has been found not to answer.

When the hen has once selected a spot for her nest, she will continue to lay there till the time of incubation, so that the eggs may be brought home from day to day, there being no need of a nest egg, as with the common Fowl. She will lay from fifteen to twenty eggs, more or less. If there are any dead leaves or dry grass at hand, she will cover her eggs with these; but if not, she will take no trouble to collect them from a distance. Her determination to sit will be known by her constantly remaining on the nest, though empty; and as it is seldom in a position sufficiently secure against the weather or pilferers, a nest should be prepared for her by placing some straw, with her eggs, on the floor of a convenient outhouse. She should then be brought home and gently and kindly placed upon it. It is a most pleasing sight to witness the satisfaction with which the bird takes to her long-lost eggs, turning them about, placing them with her bill in the most suitable positions, packing the straw tightly around and under them, and finally sinking upon them with the quiet joy of anticipated maternity.

In the south of England from fifteen to twenty eggs may be allowed; but with the Norfolk variety, which is the smallest, and in a northern or eastern county, it is found that moderation succeeds better than over-greediness of chicks. In this case thirteen eggs are enough to give her; a large hen might cover more; but a few strong, well-hatched chicks are better than a large brood of weaklings that have been delayed in the shell, perhaps twelve hours over the time, from insufficient warmth. At the end of a week it is usual to add two or three Fowls' eggs, "to teach the young Turkeys to peck." The plan is not a bad one; the activity of the chickens does stir up some emulation in their larger brethren; the eggs take up but little room in the nest; and at the end of the summer you have two or three very fine Fowls, all

the plumper for the extra diet they have shared with the little Turkeys.

Some ladies believe it necessary to turn the eggs once a day; but the hen does that herself many times a day. If the eggs are marked, and you notice their position when she leaves the nest, you will never find them arranged in the same order. A person who obtained ninety-nine chicks from a hundred eggs, took the great trouble to turn each egg every day with her own hand, during the whole time of incubation. The result *appears* favourable; but, in fact, only amounts to this, that such officiousness did no harm with a good, patient, quiet creature like the sitting Turkey, but it would probably have worried and annoyed any other bird into addling her whole clutch. We will at once reject, as utterly absurd and unnatural, all directions to immerse or "try" the eggs in a pail of water, hot or cold.

In four weeks the little birds will be hatched; and then, how are they to be reared? Some books tell you to plunge them in cold water, to strengthen them: those that survive will certainly be hardy birds.* Others say, "Make them swallow a whole pepper-corn;" which is

* Sir J. S. Sebright exposes the folly of endeavouring to make young creatures robust by undue exposure to cold and hardship, an experiment which some men and women are cruel enough to try upon their own offspring. Air and exercise increase the strength of any growing animal, but cold and hunger only dwarf and weaken. We see robust children in extremely poor families, not because they are poor, but because if they were not robust, they would not be alive at all. Sir John, in his "Treatise on Improving the Breeds of Domestic Animals," pp. 15, 16, says, "In cold and barren countries no animals can live to the age of maturity but those that have strong constitutions; the weak and the unhealthy do not live to propagate their infirmities, as is too often the case with our domestic animals. To this I attribute the peculiar hardiness of the horses, cattle, and sheep, bred in mountainous countries, more than to their having been inured to the severity of the climate; for our domestic animals do not become more hardy by being exposed, when young, to cold and hunger; animals so treated will not, when arrived at the age of maturity, endure so much hardship as those who have been better kept in their infant state."

as if we were to cram a London pippin down the throat of a new-born babe. Others, again, say, "Give them a little ale, beer, or wine." We know, unhappily, that some mothers are wicked enough to give their infants gin, and we know the consequences. Not a few advise that they be taken away, and kept in a basket by the fire-side, wrapped in flannel, for eight or ten hours. Why take them away from her? She has undergone no loss, nor pain, nor labour: she wants no rest, having had too much of that already. All she requires is the permission to indulge undisturbed the natural exercise of her own affectionate instinct.

Give them nothing; do nothing to them: let them be in the nest under the shelter of their mother's wings at least eight or ten hours; if hatched in the afternoon, till the following morning. Then place her on the grass, in the sun, under a roomy coop. If the weather be fine she may be stationed where you choose, by a long piece of flannel list tied round one leg, and fastened to a stump or a stone. But the boarded coop saves her ever-watchful anxiety from the dread of enemies above and behind—the carrion-crow, the hawk, the rat, the weasel; and also protects herself—she will protect her young—from the sudden showers of summer. Offer at first a few crumbs of bread: the little ones, for some hours, will be in no hurry to eat; but when they do begin, supply them constantly and abundantly with chopped egg, shreds of meat and fat, curd, boiled rice mixed with cress, lettuce, and the green of onions. Melted mutton-suet poured over barley-meal, and cut up when cold; also bullock's liver boiled and minced, are excellent things. Barley-meal, mixed thick and stiff with water or milk, nettle-tops, leeks, goose-grass, or cleavers, and many other things, might be added to the list; but it is probable that a few of these may now and then be refused by some fanciful little rogues. I think I have observed that little Turkeys do not like their food to be minced much smaller than they can swallow it; indolently preferring to make

a meal at three or four mouthfuls than to trouble themselves with the incessant pecking and scratching in which chickens so much delight. But, at any rate, the quantity consumed costs nothing; the attention to supply it is everything.

The young of the Turkey afford a remarkable instance of hereditary and transmitted habits. From having been tended for many generations with so much care, they appear naturally to expect it almost as soon as they are released from the shell. We are told that young pointers, the descendants of well-educated dogs, will point at the scent of game without any previous training; and so Turkey-chicks seem to wait for the attention of Man before they can have any experience of the value or nature of those attentions. Food which they would refuse from a platter, they will peck greedily from the palm of a hand; a crumb which would be disdained if seen accidentally on the ground, will be relished from the tip of a finger. The proverb that "the master's eye fattens the horse," is applicable to them, not in a metaphorical, but in a literal sense; for they certainly take their food with a better appetite if their keeper stays to distribute it, and *see* them eat it, than if he merely set it down and left them to help themselves.

I believe this to be the case with more domesticated animals than we are aware of, and appears natural enough if we remember how much more we enjoy a meal in the society of those we love and respect, than if we partook of it in indifferent or disagreeable company.

However, there can be no doubt that young Turkeys, pampered and spoiled for about three hundred generations, have at length acquired an innate disposition to rely on the care of Man. Sir Humphry Davy, in his "Salmonia," believes that a like hereditary instinct is engendered even in fishes, believing that the trout, &c., in unfrequented rivers, are more unsuspicious of artificial flies than those in the streams of Great Britain. "This," he says, "may be fancy, yet I have referred it to a kind of hereditary

disposition, which has been formed and transmitted from their progenitors.

"*Physicus.*—However strange it may appear, I can believe this. When the early voyagers discovered new islands, the birds upon them were quite tame, and easily killed by sticks and stones, being fearless of Man; but they soon learned to know their enemy, and this newly acquired sagacity was possessed by their offspring, who had never seen a man. Wild and domesticated Ducks are, in fact, from the same original type; it is only necessary to compare them, when hatched together under a hen, to be convinced of the principle of hereditary transmission of habits,—the Wild young ones instantly fly from Man, the Tame ones are indifferent to his presence.*

"*Poietes.*—No one can be less disposed than I am to limit the powers of living nature, or to doubt the capabilities of organised structures; but it does appear to me quite a dream to suppose that a fish, pricked by the hook of the artificial fly, should transmit a dread of it to its offspring, though it does not long retain the memory of it himself.

"*Halieus*—There are instances quite as extraordinary—but I will not dwell upon them, as I am not quite sure of the fact which we are discussing; I have made a guess only, and we must observe more minutely to establish it; it may be even as you suppose—a mere dream."—(Pp. 221-2). At any rate, it is neither a dream nor a guess with young Turkey-chicks, to which we will now return. A sitting of wild Turkey's eggs does not often fall into the hands of an American gamekeeper, if such a person there be, but I am afraid he would find his brood more shy and troublesome than the shyest of Partridges or Pheasants.

The Turkeys, then, are hatched, and we are rearing them. Abundant food for the mother and her young,

* The young of rabbits, wild and tame, show this contrast more strongly than any other creatures with which I am acquainted.

constant attention to their wants, are the grand desiderata. An open glade in a grove, with long grass and shrubs here and there, is the best possible location. A great deal is said about clear and fresh water for fowls; but I have observed that if left to their own choice, they will be as content and healthy, in rural situations at least, with the rinsings of the scullery, or the muddiest pool, as with the purest spring. The long grass will afford them cover from birds of prey; the hen will herself drive off four-footed enemies with great courage. I have been amused with the fury with which a mother Turkey has pursued a squirrel, till it took refuge in the branches overhead: what instinctive fear urged her I know not. Insects, too, will abound in such a situation. When the little creatures are three or four days old, they will watch each fly that alights on a neighbouring flower, fix it with mesmeric intensity, and by slow approach often succeed in their final rush. But in the best position you can station them, forget them not for one hour in the day. If you do, the little Turkeys will for a time loudly yelp "Ricordati di me," "O then remember me," in notes less melodious than those of a *prima donna,* and then they will be sulky and silent. When you at length bring their delayed meal, some will eat, some will not. Those that will not, can only be saved by a method at all other times unjustifiable; namely, by cramming: but it must be done most gently. The soft crumb of bread rolled into miniature sausages should be introduced till their crops are full. For drink, many would give wine. I advise milk. The bird wants material, not stimulant. It has been actually wire-drawn. It has grown all the hours you have neglected it, without anything to grow from. Like a young plant in the fine spring season, it will and must grow; but it has no roots in the fertile earth to obtain incessant nourishment. The roots which supply its growth are in its stomach, which it is your office to replenish. Prevention is better than cure. Such a case ought never to occur in a well cared-for poultry-yard.

Young Turkies are sometimes attacked by Fasciolæ, or worms in the trachea, but not so often as chickens. Cramp is the most fatal to them, particularly in bad weather. A few pieces of board, laid under and about the coop, are useful: sometimes rubbing the legs with spirit will bring the circulation back again.

When two hens hatch at or near the same time, the two broods may be given to one mother, and the other hen turned out to range. If kept from the sound and sight of her little ones for a few days, she will not pine like the common Hen, but will shortly recommence laying, and so produce a later hatch that will be very acceptable the following February and March. Sometimes two hens will choose to sit and lay in the same nest, like the wild birds mentioned by Audubon; but it is better not permitted. They will not quarrel, but alternately steal each other's eggs, and run the chance of addling all. A frequent practice is to hatch spare Turkeys' eggs under common Hens. This answers well in fine dry summers, but not in wet cold seasons. The Turkey-poults require to be brooded much longer than chickens; the poor Hen will be seen vainly endeavouring to shelter and warm young Turkeys nearly as big as herself, till she gives up the task in despair, and leaves them to shift for themselves. It is better to transfer the chicks as soon as hatched to a Turkey, and give the Hen some Fowls' eggs to go on with another three weeks. The improved and less rambling disposition of Turkeys that have been reared by a Hen is, unfortunately, all imagination, notwithstanding what Cobbett has so beautifully written on the subject. There may now and then occur an occasional apparent exception, before the real innate propensities of the bird have had time to manifest themselves. But the instinct of the Turkey is no more altered by this mode of education than the migrations of the Cuckoo are checked by its being brought up by a Hedge Sparrow. The only way to keep Turkeys from rambling, is to feed them well and regularly at home.

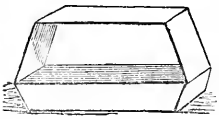
The following sensible communication is well worth attention :—" Living in a cold, damp climate, such as Ireland (Londonderry), I found so much difficulty and disappointment in trying to rear Turkeys that I determined to give it up, when a farmer's wife told me that I killed my birds with kindness, and that if I would insist on her directions being followed she would ensure me success. I determined on one more trial, and under five Turkey hens brought out fifty-four young birds. They were fed for the first week on chopped egg and bread crumbs, and kept in the house ; after this they were put out daily in a pasture-field, and *fed every hour* with two kinds of food alternately : first, with stirabout made of half Indian and half oaten meal, well boiled ; a large piece of this was dipped in buttermilk and given to the birds *from the hand ;* this manner of feeding prevents the birds clogging their feathers with the food : the next meal consisted of the young leaves of the dock shred very fine, and mixed with oatmeal and buttermilk, not wet, but a sufficient quantity of liquid to make the meal mix with the green food. After this I give them as much buttermilk as they like to drink. I only lost four birds, two of them by accident, and my flock of Turkeys are the admiration of every one, from their peculiarly healthy appearance and size ; they are now (October) daily in the stubble fields, and are only fed morning and evening. When the roosting-time approaches, they run and fly homewards a considerable distance, and, I should say, in boldness and daring they much resemble the Turkey in its wild state. These birds were never brought into shelter, except on a decided wet day, and then they were so troublesome to the Cocks and Hens, that we were forced to turn them into the stock-yard, and let them seek shelter for themselves."—*H. M.*

The time when the Turkey-hen may be allowed full liberty with her brood, depends so much on season, situation, &c., that it must be left to the exercise of the keeper's judgment. Some, whose opinion is worthy of

attention, think that if the young are thriving, the sooner the old ones are out with them the better, after the first ten days or so. A safer rule may be fixed at the season called "shooting the red," a "disease," as some compilers are pleased to term it: being about as much a disease as when the eldest son of the Turkey's master and mistress shoots his beard. When young Turkeys approach the size of a Partridge, or before, the granular fleshy excrescences on the head and neck begin to appear; soon after, the whole plumage, particularly the tail feathers start into rapid growth, and the "disease" is only to be counteracted by liberal nourishment. If let loose at this time they will obtain much by foraging, and still be thankful for all you choose to give them. Caraway seeds, as a tonic, are a great secret with some professional people. They will doubtless be beneficial, if added to plenty of barley, boiled potatoes, chopped vegetables, and refuse meat. And now is the time that Turkeys begin to be troublesome and voracious. What can you expect else from a creature that is to grow from the size of a lark to twelve or fourteen lbs. in eight or nine months? "Corn-sacks, coffers for oats, barn-swallowers, ill neighbours to peasen," are epithets deservedly earned. They will jump into the potato ground, scratch the ridges on one side, eat every grub, wireworm, or beetle that they find, and every half-grown potato. From thence they will proceed to the Swedes; before the bulbs are formed they will strip the green from the leaves, thereby checking the subsequent growth of the root. At a subsequent period they will do the same to the white turnips, and here and there take a piece out of the turnip itself. They are seldom large enough before harvest to make so much havoc among the standing corn, as Cocks and Hens and Guinea-fowl, or they have not yet acquired the taste for it; but when the young wheat comes up in October and November they will exhibit their graminivorous propensities to the great disadvantage of the farmer. The farmer's wife sees them not, says

nothing, but at Christmas boasts of the large amount of her Turkey-money. One great merit in old birds (besides their ornamental value, which is our special recommendation) is, that in situations where nuts, acorns, and mast are to be had, they will lead off their brood to these, and comparatively (that is all) abstain from ravaging other crops. It is, therefore, not fair for a small occupier to be overstocked with Turkeys (as is too often the case, and with other things also), and then to let them loose, like so many harpies, to devastate and plunder their neighbours' fields.

Soon after Michaelmas, it will be time to think of fatting a portion of them. Some families require Turkeys very early in the season; but they are like every other immature production, inferior in quality. To eat Turkey-poults is a wasteful piece of luxury; those who order them are occasionally deceived by a small hen of the previous year. In the Roman markets hen Turkeys sell for a bajocco (halfpenny) a pound more than the cock; and there are Turkey-butchers of whom you may buy the half or a quarter of a bird. A hen will be five or six weeks in fatting, a large stag two months or longer, to bring him to his full weight. The best diet is barley-meal mixed with water, given in troughs (see fig.), that have a flat board over them, to keep dirt from falling in. A turnip with the leaves attached, or a hearted cabbage, may now and then be thrown down to amuse them. Some use plain oats, but barley-meal is preferable, acting more quickly. Cramming is unnecessary, though it may hasten the progress. In some parks, where there are immense quantities of mast, Turkeys will get perfectly fat upon them; but this, although no doubt profitable to the gudewife, is by no means pleasant to every palate after the bird has been on the spit. In the olive grounds of Corfu, Turkeys devour such an abundance of dropped and refuse fruit as to become rankly fat, and scarcely



eatable. Beech-mast, however, in small quantities, and as the substratum of fatting, rather improves the flavour than otherwise. The windfalls and gleaning of hazel-nuts, which they swallow whole, do not come amiss. When they have arrived at the desired degree of fatness, those which are not wanted for immediate use must have no more food given them than is just sufficient to keep them in that state, otherwise the flesh will become red and inflamed, and of course less palatable and wholesome. But with the very best management, after having attained their acmè of fatting, they will frequently descend again, and that so quickly, and without apparent cause, as to become quite thin. Cock-birds play this game oftener than hens. The Turkey differs from the rest of our poultry in being fit for the table after its youth is past. Very few of the large Turkeys that are brought to market are less than eighteen months old; many are double that age. Nor are they the worse, provided the lady of the house be informed of the circumstance, and so enabled to leave a due interim between the killing and the cooking.

The hen Turkey, contrary to the statements of some writers, does now and then erect her tail and strut like the male, and that too without any diminution of her feminine virtues. The manners of the cock are not prepossessing; he is vain, ungallant, careless of his young, a bully though not always a coward, the most selfish creature in the poultry-yard except the Musk Drake, occasionally even ferocious to weaker birds, sometimes also apt to be seized with odd fancies that render him useless; from which the only moral that I can draw is, when you are in possession of a quiet, handsome, and serviceable bird, do not greedily eat nor rashly part with him. Their supposed antipathy to the colour of red or scarlet I believe to be an unfounded prejudice; or one about as well grounded as the alleged fear that a Lion entertains of a Cock. "That the *Lion* is afraid of a *Cock*, cannot endure the sight of him, yea, is terrified by his very crowing, hath been delivered and received by Ancients

and Moderns with unanimous consent and approbation, and divers reasons sought and assigned for this antipathy: When as the thing itself is by experience found to be false."—*Willughby*, p. 155 : a writer who, for the age in which he lived, is remarkably sceptical. The courtships of Turkeys are conducted with a degree of indecorous publicity and protracted vehemence, very objectionable in so large a bird. They display less individual attachment to Man than most other poultry, though they have equally, or more, thrown themselves on the protection of the race of mankind. They are called stupid, but mark the intelligence and amiability displayed by every look and action of a hen with her young. And yet little real alteration of her former manner is apparent. The strut that seemed foolishly pompous, now strikes us as justly proud and cautious; the eye in which only affectation was apparent, now glances with anxiety and beams with tenderness. The discordant voice has now an object in its call, and may be heard almost to whisper in subdued notes of gentle affection. Whether in the faithful wife whom we cherish as ourselves, or in the poor bird that we rear, admire, and kill, a higher charm and elevation is added by the exercise of those holy affections which the beneficent Creator of all has given us for our comfort.

THE CANADA GOOSE.

"The fine proportions of this stately foreigner, its voice, and flavour of its flesh, are strong inducements for us all to hope that ere long it will become a naturalised bird throughout the whole of Great Britain. I stop not to give a detailed description of its plumage; that has already been performed by many able hands. Suffice it then to say, that its beautiful black neck and white cheeks render it so particularly conspicuous, that those who have seen it once will never be at a loss to recognise it when viewed amongst all other species of the goose tribe."—WATERTON's *Essays*, 2*nd Series*, *p.* 107.

ONE would think, indeed, that to see the bird, and those confounded with it, would be at once to know it again, but owing, perhaps, to the compiling system of Zoological literature, the Canada, Bernicle, and Brent Geese, are all occasionally mistaken for each other. Aldrovandi, with Frank Forrester after him at an interval of more than 250 years, amalgamate the Bernicle with the Brent Goose. Albin, who in 1738, had the enterprise to publish figures of several birds for the first time, engraves and describes the Bernicle for the Canada Goose; and the error has not yet quite vanished from our modern libraries.

The history of the *Anser Canadensis*, in a state of nature, and in captivity, has been so well and so fully written by the ablest Ornithologists, both of England and America, that for me to attempt giving complete details would be either to restate the same facts in less appropriate language, or to commit a wholesale plunder of compilation upon the stores of preceding authors. But although unwilling to be guilty of this kind of pillage, I must necessarily make some reference to the labours of

others. The bird is far too important, in every respect, to be entirely omitted in the present series ; and there are a few points respecting it which ought to be brought into more prominent notice. Our poultry books mostly call it a variety of the Common Goose. But it is no more a *variety* of Goose than the Swan is a variety of Goose. Cuvier seems to doubt whether it is a Goose at all, and says that it cannot be properly separated from the true Swans. Audubon kept some three years, and though the old birds refused to breed in confinement, their young, which he had captured together with them, did. He states their period of incubation to be twenty-eight days, which is a shorter time than one would have imagined. That circumstance alone, if correct, marks a wide distinction ; and every statement of his, which I have had the opportunity of testing, has proved accurate. I suspect that at a future time our scientific naturalists will deem it advisable to institute several new genera, for the reception of various water-fowl, that are now huddled into one or two ; particularly if they allow the diet and habits of the birds, as well as their external form, to influence the rules of classification.

Canada Geese eat worms and soft insects, as well as grass and aquatic plants, which the typical Geese never do ; with us they do not breed till they are at least two years old, and so far approach the Swan. Like the Swan, also, the male appears to be fit for reproduction earlier than the female. But Audubon says, "that this tardiness is not the case in the wild state, I feel pretty confident, for I have observed, having broods of their own, many individuals, which, by their size, the dullness of their plumage, and such other marks as are known to the practised ornithologist, I judged to be not more than fifteen or sixteen months old. I have therefore thought that in this, as in many other species, a long series of years is necessary for counteracting the original wild and free nature which has been given them ; and indeed it seems probable that our attempts to domesticate many

species of wild-fowls, which would prove useful to mankind, have often been abandoned in despair, when a few years more of constant care might have produced the desired effect." The Canada Goose, in spite of its original migratory habits, which it appears in almost every case to forget in England, shows much more disposition for true domestication than the Swan, and may be maintained in perfect health with very limited opportunities of bathing.

The manner in which these birds are usually kept here is neither consistent with their natural habits nor calculated to develope their usefulness and merit. They are mostly retained as ornaments to large parks, where there is an extensive range of grass and water: so far all is as it should be. But they are there generally associated with other species of Geese and water-fowl, all being of a sociable disposition, and forming one heterogeneous flock. In the breeding season, they neither can agree among themselves to differ seriously, nor yet to live together in peace; the consequence is, that they interrupt each other's love-making, keep up a constant bickering, without coming to the decisive quarrels and battles that would set all right; and in the end we have birds without mates, eggs unfertilised, and now and then a few monstrous hybrids, which, however some curious persons may prize them, are as ugly as they are unnatural, and by no means recompense by their rarity for the absence of two or three broods of healthy legitimate goslings. Many writers, Audubon amongst others, from whom one would have expected a more healthy taste, speaks highly of the half-bred Canada Goose. They are very large, it is true, and may merit approbation on the table; but with whatever other species the cross is made, they are hideously displeasing. An old-fashioned plan of sweeping chimneys was to tie the legs of a Goose, pull her up and down by a string, and let her dislodge the soot by the flapping of her wings. This sounds cruel, and is not humane. But is it more barbarous to send a Goose down a chimney, than a child up it? This by the way: but all half-bred Canada

Geese, that I have seen, look as if they had kindly undertaken to act as substitute for the poor little climbing boy or girl.

Not only are they suffered thus to herd with other varieties, but the broods of successive years are allowed to remain, and annoy, and encroach upon the privileges of their parents, which would be made all square by their natural migrations, till the park gets evidently overstocked to the most unpractised eye—it has really been so long before,—and then a few surplus individuals are disposed of, mostly at an age and season when they are good for little except their feathers, if for them. This mode of mismanagement accounts for the low esteem in which the flesh of the Canada Goose is held in England. I never met with any one who had tasted it here, that did not pronounce it detestable ; though a gentleman who had lived on it for weeks in Canada, still remembered it with relish. In one instance within my own knowledge, the extra stock were given to the poor, who could not or would not eat them. But it is impossible that the thousands of people who eagerly destroy the bird in its passage to and fro, can be mistaken in the opinion they have for years held of its value as an article of diet. Audubon gives the clue to our error ; he says : "the goslings bred in the inland districts, and procured in September, in my opinion, far surpass the renowned Canvas-back Duck"—the most famous tit-bit that America produces. He adds, "Every portion of it is useful to Man ; for besides the value of the flesh as an article of food, the feathers, the quills, and the fat are held in request. The eggs also afford very good eating."

Instead of this slovenly mode of breeding and feeding, which no one would think of adopting with the most ordinary Goose that ever grazed upon a common, I would, not unadvisedly, recommend every flock of Canada Geese to be in November immediately reduced to two (in order to guard against accident to one), or, at the most, three pairs, in the very largest park, and greatest extent of

water, possessed by our nobility. Such pairs should be retained, as differ as much in age, as may be consistent with their breeding powers; and also, if possible, those should be selected which have been observed to entertain a mutual dislike, in order that they may fix their nests at a distance from each other. They should previously have become attached to their keeper, though not to their co-mates, that they may suffer him to approach and feed them and their goslings liberally, and so bring them into thoroughly good condition by killing time.

The stock-birds ought to be well supplied with corn during winter, when the grass grows little or not at all, to promote early laying; but they usually have just half-a-dozen kernels of barley thrown down to them now and then. No one can blame them, if they occasionally stray out of bounds in search of food; but they are then accused of restlessness, shyness, and so on. They have been literally starved out. It is no migratory impulse that sets them on the move, but over-crowding and under-feeding; in proof of which, they will generally return of their own accord. I am speaking of birds that have been bred in captivity for several generations. Give them room and food enough, and they will stay contentedly at home. Curtail their supplies, and they become like "darkness" in Spofforth's well-known glee; "flies away" is ever and again the burden of their song. The Canada Goose is a very large bird, and cannot be expected to live and get fat upon air. If a farmer's wife were to treat her Turkeys as the Canada Goslings are usually served, they would at Christmas be just as tough, stringy, and uneatable, if indeed they survived the pinching regimen so long. Many people in the country make the same difference in their treatment of their ornamental fowls and their ordinary stock, that they do between their garden and their farm. The garden goes without a spadeful of manure from one end of a seven years' lease to another; the turnip-field is glutted with guano and all sorts of good things. And so, exotic birds, procured at considerable

expense, or received as highly valued presents from friends, are turned out in a grassy wilderness, to shift for themselves as best they may, while the Turkeys and Goslings are taken as much care of as their master's children. To a late inquiry after the fate of a pair sent to a distance, I got for answer, "One flew away, and the other the Swan killed." The growing Canada Geese must sensibly miss the abundance of their native breeding-places, when confined to these short commons; and it is not just in us, after such neglect and penuriousness on our part, to complain that they neither fat well nor reproduce at an early age.

From each pair of Geese, properly looked after, between six and nine goslings may fairly be calculated upon; which, killed in the autumn, when really plump, would be very acceptable at home, or as presents to unprejudiced persons. Managed thus, they would be little, or, according to Audubon, not at all inferior to a fatted Cygnet. And their picturesque effect, as accessaries in landscape gardening, would surely be greater in distinct uniformly tinted groups, moving here and there across the scene with a decided object, namely, the conducting of their young, than as a motley crowd of diversely-coloured, variously-shaped creatures, huddled together in unmeaning confusion. The woodland-park should be stocked on different principles to the aviary and the menagerie. Thus it is as a spot of pure white that the Swan gives such a sparkling brilliancy to the picture; and the point of deepest shade (an adjunct of no less importance to the painter) may be made more intense and effective by the judicious employment of the Canada Goose.

When a pair are received from a distance, the best way of settling them in their new abode is to confine them with hurdles and netting, as near as possible to the spot where it is wished they should eventually make their nest. Those from the hands of dealers will generally be cowed or timidly tame; but young birds, fresh taken from their parents, or adult ones that have

been removed from their old home to a new one, will sulk and be shy. For the first few hours they need have nothing to eat, only plenty of water to drink. Their keeper should show himself to them, and speak to them kindly, as often as his leisure will permit; when he guesses that they begin to feel the cravings of hunger, a small handful of corn may be thrown down to them, a cabbage or two, and half-a-dozen earth-worms. It is, of course, supposed that they have been located on the grass. It is likely that at first they will not eat in the presence of a stranger; they may be left for an hour or so, when, if they have availed themselves of his absence, he may give them a little more from time to time. Proceeding thus by kindness, familiarity, and very frequent visits, he will soon secure their confidence, and be able to form his own judgment when they may be suffered to range at large.

The young are active, self-helping little things. Their down is of a dirty grey, a colour very difficult to describe, with darker patches here and there, like the young of the China Goose. Their bill, eyes, and legs are black. They give no trouble in rearing. The old ones lead them to the places where suitable food is to be obtained. The keeper, by a liberal supply of corn, can bring them forward for the table better than by shutting them up to fat; and before Christmas the parents should be again alone in their domain. They will continue to increase in size and beauty for some years, and should have been pinioned at the first or second joint of the wing (reckoning from the tip), according to the scope they are to be allowed, in the manner described for the Swan: the young that are to be eaten had better remain unmutilated. I believe that old birds killed in the autumn after they have recovered from moulting, and before they have begun to think about the breeding-time, would make excellent meat if cut into small portions, stewed slowly five or six hours with savoury condiments, and made into pies the next day. "'Tis the soup that makes the soldier," say the French. By roasting or broiling similar "joints" we

lose the large quantity of nutriment contained in the bones and cartilages, besides having to swallow tough what we might easily make tender. The young (as well as the old) are in America salted and boiled ; they would probably please most English palates better if cooked and served Swan-fashion. A Committee of Taste having assembled on January 22, 1850, to investigate the edible merits of a well-conditioned Canada Goose, pronounced them to be of a high order, rivalling those of Swan, which must be taken as the standard of excellence, if we at all defer to the opinion of the Churchman entertained by Chaucer's Franklin :

> "Now certainly he was a fayre prelat:
> He was not pale as a forpined gost;
> A fat Swan loved he best of any rost."

Audubon's description of their manners is most vivid, and, as far as I have observed, quite accurate, and not at all exaggerated. The young male has a frequent disposition to neglect his own mate, and give himself up to unlicensed companionship. We had one that deserted his partner, to her evident grief, and made most furious love to one of a flock of Tame Geese, separating her from the rest, not permitting any other water-bird to swim near her, stretching out his neck stiffly on a level with the water, opening his red-lined throat to its utmost extent, hissing, grunting, sighing, trumpeting, winking his bright black eyes, tossing his head madly, and all kinds of folly. We did not choose to permit such conduct ; but as often as we killed and roasted the object of his affections, he immediately selected another leman, invariably the ugliest of the surviving females. One short, squat, rough-feathered, ill-marked Goose, with a thick bill and a great grey top-not, was his especial favourite. When the Michaelmas murders had extirpated the whole race he so admired, he returned reluctantly and coldly to his former love. The best remedy in such a case is to divorce them at once, and exchange one out of the pair for another bird.

THE EGYPTIAN, OR CAPE GOOSE.

(CHENALOPEX EGYPTIACUS).

"The Goose-Fox has had its name compounded, and rightly, from creatures that are like and of one nature with itself. For it has indeed the outward appearance of the Goose, but might most justly be compared to the Fox in being up to everything: and it is smaller than a Goose and stronger, and a terrible one for a set-to. It drives off at least the Eagle, and the Cat, and the rest of such things as are hostile to it."—ÆLIAN. *Lib*, *V. c.* 39.

THIS bird is one of the most desirable and interesting pets that an ornithologist can possess. Its mature plumage is gay and striking; its habits and all its ways are so odd and amusing, as to excite the curiosity of any who have once caught a glimpse of it. Its Greek name, "*Chenalopex*" (Goose-Fox), is most appropriate; for, to the conjugal fidelity (as reputed, at least), long life, and other qualities of the Goose, it joins much of the cunning of the Fox, added to a certain degree of sly fun and humour, such as we find developed in Æsop's Fables. One that I had was very fond of insulting a large Turkey-cock, in the midst of his gobbling, strutting, and display, by laying hold of him by the tail, and twisting him round, or pulling him backwards, in the presence of his hens and all the other assembled poultry.

Indeed, the Egyptian Goose, with much apparent timidity, really fears no other domesticated fowl whatever. By its odd noises and strange grimaces it puzzles and frightens and worries them all, driving the heavy Canada Goose before it with as much of a matter-of-course air, as a farming lad would drive a lot of bullocks

to marsh. If, by any chance, it be itself attacked, it discreetly slips off in a curve—discretion being the better part of valour—and returns shortly to enjoy the joke, if the danger be, in its opinion, no more than trifling; but if a dog, or a gun, or any other really serious enemy be apparent or audible, it steals away with long strides of its red stilt-like legs, and disappears and squats till none but friends are at hand. No tame bird would be a greater puzzle to fowl-stealers than the Egyptian Goose, if suffered to range at large, after it was once settled and acquainted with the premises which were to be its home.

In extreme cases of danger their cunning leads them to feign death, like the landrail and some species of beetles. A man who undertook to pinion a brood of four that had been brought up with a Hen, was much alarmed by finding that he had operated too severely on one of them, and "kilt" it by the operation. The patient had apparently died under the knife. He handled it and turned it about; it dropped its neck, hung its wings, and suppressed all signs of life. Deeming the case past remedy, he tossed the poor thing into a pond close at hand; when, presto! down dived the Gosling—no Goose—after an exercise of self-command not surpassed by the most patient subjects of mesmeric practice, thinking, doubtless, that it had done the old gamekeeper, and saved itself from some still more severe treatment.

Their powers of voice are also remarkable. The ordinary conversation of a pair with each other is a low internal whispering, very distinct, but very faint, with much the effect of ventriloquism. They will also address these confidential sort of remarks to the persons to whom they are attached by feeding and other acts of kindness, cocking their yellow eye in the driest way possible. Their cry of alarm is a short reedy note, of considerable loudness, which somewhat resembles the snappish barking of a cur dog. They make use of this to scold other animals, and to express their disapprobation of what is going on about them. Mine sometimes took

it into their heads that poor Cherry, our only cow, had no business in the meadow or on the lawn while they were present; and one of them, the male bird, kept up this incessant barking by the half-hour together, walking round and round the creature, or scolding into her very ear as her head was down grazing, but producing no more apparent annoyance to the patient and philosophical cow, than the cawing of the rooks from the neighbouring rookery. There is a hissing sound, seemingly expressive of mutual confidence, which is very like the escape of steam from the boiler of a steam-engine. They have a fashion of standing opposite to each other, face to face, on tip-toe, as high as their webbed feet permit, with their wings displayed and expanded, as if they were about to embrace and hug one another—a gesture, as far as I am aware, peculiar to, and characteristic of, the species; and during this demonstration of affection, which it undoubtedly is, one (the male ?) keeps up the bark, and the other (the female ?) the hissing noise; so that it suggests the idea of a carrier's cart-dog making love to a safety-valve.

Among the ancient Egyptians the Chenalopex was typical of parental affection.

"And these same Egyptians pay honour to Goose-Foxes and Hoopoos, since the former are fond of their young, and the latter are pious towards their parents."—*Ælian*, lib. x., c. 16.

"The Goose-Fox is a creature very fond of its young, and acts in the same manner as Partridges. For this bird sets itself down before its young ones, and inspires the fowler with hope in order that he may advance: the young run off in the meanwhile, and when they are advanced on the way, the parent, rising on its wings, escapes."—*Idem.*, lib. xi., c. 38.

The fury with which they defend their offspring from real or supposed danger is extreme. It is much more blind and violent, and less reasoning than that of the Hen. When they have young their jealousy is like King Herod's: they indiscriminately attack and slay the

innocent young of other poultry, as well as of their own species; on which account it is better not to let them hatch the eggs they have produced, but to depute that office to a common Hen, by which plan also a chance is given of obtaining a second laying.

Two pairs of Egyptian Geese had been permitted to hatch; the young of each brood were thrifty, and were conducted by their parents to the same pond. The two families met. The Capulets *versus* the Montagues did not manifest a more bitter hatred. Each couple insanely set to work to slaughter the rising hopes of the other. In a few minutes all was over; the eggs might as well have been addled or eaten. All the unhappy Goslings were floating dead on the water, and the rival Goose-Foxes had each had their revenge,—a good moral lesson for their betters.

The time of incubation is a month; but the duration of this period varies slightly in probably all birds according to circumstances. The young are marked similarly to the old ones, but with duller colours. Brown back and tail, ash-coloured belly, a whitish band behind the ears, and a smaller one at the base of the bill. They may be reared in the same manner as those of the common Goose. If a Hen be selected for their nurse, she will not have the instinct to lead them to the tender grass by the water-side, and it may be as well to cram them for a time, once a day, with "pegs," or long pellets made of egg and flour dried before a slow fire. After the first month or two they become perfectly hardy, but must be pinioned, lest they be seized with a migratory fit. They are said to be very good eating; but it may be supposed that a bird, for which the London poultry-dealers ask 3*l.* a pair, and which when roasted would not be much larger than a fine duck, does not often appear at ordinary tables. They are no doubt creatures of great longevity. Instances are not unfrequent of individuals remaining domesticated for fifteen or twenty years, and then being shot by mistake for wild birds, in consequence of having wandered from their

usual haunts during some heavy gale or peculiarity of weather. In hard winters, when the ground is covered with snow, they are apt to stray in search of soft marshy spots and open water; and at such seasons it is desirable that their keeper should have a more careful eye over them than usual. They do not attain their full plumage, nor breed, till their third year, and they continue to increase somewhat in size after that period—circumstances which, in birds, are, I believe, uniformly united with great length of life, probably as much as eighty or a hundred years.

The Egyptian Goose seems to be a connecting link between the waders and the gallinaceous birds in one direction, and the anatides in another. In its outline and attitude it bears considerable resemblance to that rare and curious bird, the Spur-winged Goose; also a native of the same continent. It is very fond of standing up to the knees in water, like a heron. It eats worms, which, it has been remarked, the genuine and typical Geese never do; and I have no doubt that any small eels or fry that came in its way would be swallowed. Its chief diet, however, is grass. It takes its share of grain when the other poultry are fed, and at that time amuses itself with teasing and chasing them, but more through fun than mischief—unless, indeed, it has a young family to protect, then it is a feathered tiger. It keeps itself from intimate society with other fowls, not joining the Geese in their gregarious disposition to form one common flock, nor yet, like the Muscovy Duck, attaching itself to the Hens and Turkeys, but maintaining a very independent, fearless, and somewhat haughty exclusiveness.

THE MUSK (COMMONLY MUSCOVY) DUCK.

THE CAIRO DUCK OF ALDROVANDI.

"At Makaaka, we saw some Muscovy Ducks feeding in the garden, and offered to purchase one; but they said they were rearing them for their landlord, and could not part with any; they furnished us, however, with a fowl, with which, and some biscuit we had with us, we made a tolerable meal."—ELLIS's *Missionary Tour through Hawaii.* p. 187.

"CAN a Duck swim?" is a pert question sometimes asked with little expectation of an answer in the negative, Here, however, is a Duck, which if it *can* swim, performs that action in such a clumsy way as hardly to deserve the name of swimming. Those who expect that its singular appearance "would render it a curious, if not an elegant companion, among the more attractive Ducks of our aquatic preserves," will be disappointed; for it will never go near the water, if it can help it, but will prefer the farm-yard, the precincts of the kitchen, or even the piggery itself, to the clearest stream that ever flowed. In fact, it hates water, except some dirty puddle to drink and drabble in. When thrown into a pond, it gets out again as fast as it can. It does, indeed, sometimes seem to enjoy an occasional bath, but so does a sparrow or a canary bird. Its very short leg does not appear to be mechanically adapted for the purpose of swimming. It waddles on the surface of a pond as much as it does on dry land: it is evidently out of its place in either situation. Its proper mode of locomotion is through the air: its congenial haunts are among the branches of trees.

The early Voyagers and the old Ornithologists are constantly referring to these habits. Observe, for instance, the description of "*A wild Brazilian Duck of the bigness of a Goose.*—MARGGRAVE. It hath a black Bill, dusky Legs and Feet. It is all over black except the beginnings (setting on) of the Wings which are white; but that black hath a gloss of shining green. It hath a crest or tuft on its head consisting of black feathers, and a corrugated red mass or bunch of flesh above the rise of the upper Mandible of the Bill. It hath also a red skin about the Eyes. It is very fleshy, and good meat. They are commonly shot sitting on high trees: For after they have washt themselves in cold water, they fly up high trees, for the benefit of fresh air and Sun."—*Willughby.*

A pair that were given to me by a friend came home very dirty, and, as at the end of three or four days they still had not washed themselves from their coating of filth, they were driven towards the water to bathe and be clean. In vain—they flew back over our heads to the poultry-yard; and we were obliged to catch them, put them into the pond with our hands, and give them a ducking whether they would or not.

Another curious fact is, that great part of the feathers of the Musk Duck do not resist the wet so well as those of other water-birds; but the quill feathers particularly, and those of the tail, become soaked and matted in a very few minutes, like those of a Hen or Turkey; so that if compelled to make any long voyage, at a certain distance they would sink and be suffocated. It would not be a humane experiment to try to make a Duck drown itself; but such would probably be the result. We have here, then, the strange anomaly of a web-footed bird, whose feathers do not repel water; which may be matched by another case, the Water-Hen, a bird whose feet have no web whatever, which yet swims safely though not quickly, and whose feathers are waterproof. Woodcocks, also, have been said to rest on the surface of the sea during their migrations: the common Heron has been stated by

Mr. Yarrell, on good authority, to swim occasionally; and Audubon positively affirms that he has known a flock of wild Turkeys cross an American river by swimming. The correctness, however, of this last account has been called in question, but, as it is impossible to prove a negative, not disproved. Mr. Darwin also, whose name is a sufficient guarantee for the accuracy of the fact, states, I think, the same thing of an American Ostrich.

The cause of this difference in the wet-repelling power of the feathers of different birds remains yet to be discovered. The old idea of the function of the oil-gland on the rump needs no further refutation. The quantity of oil secreted is quite insufficient to smear the whole plumage of any bird. The actions of the creature, which are presumed to be the smearing itself with this unguent, are nothing more than the process of combing, and preening, and arranging its feathers. The rumpless Fowl has a coat just as glossy as any other variety. The necks of some birds, as Owls, are too short to reach the gland that is to supply the natural Macassar. In other birds, of most aquatic and even oceanic habits, the rump itself is but little developed. What function is performed by these glands, remains yet to be demonstrated: probably it will be found to be simply excretory. The question of lubrication might very soon be set at rest by amputating the rump of a common Duck or Goose (were such cruelty at all justifiable—which it is not), and if, at the end of a month, the mutilated creature swam as buoyantly as ever, it would certainly not be by the assistance of the oil-gland. I venture, therefore, to suggest—and claim the credit of first suggesting—that this cause may probably be found in some minute structural peculiarity of the texture of the feather, which the microscope can alone reveal to us. In geology that instrument has afforded great and unexpected assistance. A thin slice of a fossil tree tells us whether it was a Palm, or whether it grew like our oaks and beeches; a minute fragment of a tooth has indicated the nature of

an extinct and gigantic reptile. Youatt, through its aid, discovered the mechanical cause of the felting property of wool; and it is not too much to hope that it may throw light on the reason why some feathers resist moisture, and others do not.

Now, two conditions necessary for the repulsion of water by small objects, are rigidity and smoothness. The fur of a Water-Rat, that would be proof against all damp while the creature was living, and the hairs remained rigid and elastic, would become sodden as soon as death ensued, and the coating became flaccid. "Insects which, like the Gnat, walk much upon the surface of water, have at the end of their feat a brush of fine hair, the dry points of which appear to repel the fluid, and prevent the leg from being wetted. If these brushes be moistened with spirit of wine, this apparent repulsion no longer takes place, and the insect immediately sinks, and is drowned."—*Dr. Roget's Bridgewater Treatise*, vol. i., p. 334. A hair that would sink if once wetted, will, if dropped gently on the surface, float by means of the air contained in the vacant space caused by its repulsion. The same will happen with a dry and polished needle of considerable size, although iron is so much heavier than water. If, then, it shall be found that the minute parts of waterproof feathers possess these qualities of smoothness and rigidity, in combination with others yet to be discovered, which qualities are not to be found in feathers that are easily wetted, a step will be gained which must lead to interesting results. We cannot hope to find out the ultimate cause of attraction and repulsion, any more than we can that of gravitation, but we may endeavour to learn the conditions of both.

Dr. Roget has discovered, by the microscope, a characteristic which distinguishes feathers intended for flight, from those whose use is for mere clothing or ornament. "The feathers of the Ostrich," he says, "are unprovided with that elaborate apparatus of crotchets and fibres, which are universally met with in birds that fly."

In those of the Peacock's tail this peculiar mechanism is deficient. We shall probably, at a future time, be equally able to point out the repulsive structure of feathers destined to be in constant contact with water, without being wetted by it.

One bird, the young of the common Duck, is waterproof everywhere, except at the tail, the down of which soon becomes soaked, while the rest of its body is dry. The tail of the Duckling is, like the heel of Achilles, its weak point, on which account many farmers' wives clip it close before they suffer a brood to approach the pond. But compare the stiff, elastic, brush-like down of a common Duckling or Gosling, with the soft, cottony, compressible covering of a newly-hatched Chicken or Turkey, and it will unhesitatingly be granted that there is room for further inquiry. And it is desirable that the investigation should be pursued by some man of experience and acquirement, who is in possession of good instruments, and has the skill to use them. I am not aware of any fossil feathers being catalogued in our museums, but portions of them at least are as likely to be found *in situ*, if searched after, as the delicate tissue of plants. Thus it may be possible to determine, independently of any reference to webbed feet, or broad bill, which of the pre-adamite birds delighted in the water, and which were confined to the dry land; some light may even be thrown on the habits of the mysterious Dodo.*

The female of the Musk Duck has considerable powers of flight, and is easy and self-possessed in the use of its wings. It is fond of perching on the tops of barns, walls, &c. Its feet appear by their form to be more adapted to such purposes than those of most other Ducks. If allowed to spend the night in the hen-house, the female will generally go to roost by the side of the Hens, but the Drake is too heavy to mount thither with ease. Its claws are sharp and long; and it approaches

* See Strickland's able Treatise, in which he demonstrates it to have been a Pigeon.

the tribe of *Rasores* or *Scratchers* in an *un*-scientific sense, being almost as dangerous to handle incautiously as an ill-tempered cat; and will occasionally adopt a still more offensive and scarcely describable means of annoyance.

The voice of the male is a hoarse asthmatical sigh. Its habits are gross, obscene, dirty, indolent, selfish. It manifests little affection to its female partner, and none towards its offspring. The possession of three or four mates suits it, and them, better than to be confined to the company of a single one. It bullies other fowls, sometimes by pulling their feathers, but more frequently by following them close, and repeatedly thrusting its face in their way, with an offensive and satyr-like expression of countenance. I have not observed it to sift the water, as it were, with its bill, to extract minute insects and worms, as is the custom of other Ducks. It is a great devourer of slugs. A nest of half-fledged birds of any moderate size would soon be swallowed.

The female appears to be mute, or nearly so, having, *in general*, only a faint cry while leading her young; but, as in other cases of assumed dumbness, a sudden fright will sometimes extort the real truth.

"I discovered the voice of the female Musk Duck in the following manner, having kept them for some years without having done so. In 1842, I was at Swanage, in Dorsetshire, where, for the first time, I saw some pure white Muscovy Ducks. I bought a pair, and in taking them home I found that the female, on being moved from one basket to another, uttered a cry almost exactly resembling the "quack" of the common Duck. I feared I had bought a hybrid instead of a genuine bird, though the external appearance assured me otherwise. On my arrival at home I had all my female Ducks of the Muscovy kind (of which I then had four or five) caught suddenly, and held by one leg, when I found that they all made the same noise."—A. W.

At the time of receiving the above communication, I

had only one Musk Duck, of the dark variety, and upon her the experiment was tried. She was extremely tame, and, frighten her as we would, we could only get a faint cry; it was impossible to squeeze out of her a loud honest "quack!" Like the obstinate Prima Donna whom the Sicilian viceroy sent to prison, she seemed to say, "You may make me cry, but you shall not make me sing." A white Musk Duck, that subsequently arrived as a stranger, manifested its alarm at being handled by loud quackings, as above described. Willughby gives the white variety as a distinct species. It is mentioned by Caius as early as 1570 under the name of Turkish Duck. The eye is smaller, and if the peculiarity of voice be found a permanent characteristic, it wound tend to confirm the position; otherwise the differences are trifling. In both sorts the female is very much smaller than her spouse, and the couple suggest the idea of those unequal matches occasionally seen in the human species, where a little dumpy woman trips with evident satisfaction by the side of a husband who is twice her length, and four times her size.

The tropical regions of South America are the native country of the Musk Duck, which may account for its dislike to a cold bath in our English winter. Its frizzled crest is analogous to that of some Curassows, natives of the same continent and climate. It is fond of warmth, passing the night, not in the open air, but in the fowl-house with the Cocks and Hens; and selecting by day the most sunny corner to bask and doze in. I believe that, if permitted, they would soon learn to come and lie before the kitchen fire in cold weather; for they become absurdly tame with those persons who treat them kindly, and fly off a few yards, like pigeons, if any disagreeable acquaintance appear. I have seen one (a male) that would wait to be stroked, like a cat, by its owner, and expressed pleasure when he took it up to caress it in his arms; but it did not permit such liberties to strangers.

The hatred of water which the Musk Duck entertains, is taken advantage of by two classes of persons—those

who have too little, and those who have too much water to rear the common Duck. The river or the pond is the nuptial bed of the latter, as of most web-footed birds. Ophelia-like, a fall "into the weeping brook" is mere matter of indifference to her; she bears it

> "As one incapable of her own distress,
> Or like a creature native and indued
> Unto that element."

Not so with the Musk Duck: a damp bed does not suit it. Where there is any very great extent of lake and stream, the common Duck can scarcely (except by cooping) be prevented from leading her brood out of all bounds, till they are destroyed by pike, carrion-crows, marsh-men, barge-men, rats, and other water-thieves, and the Duck returns home at last with only half, or perhaps none of her progeny in her suite. The Musk Duck resists, or feels not the temptation to ramble. On this account it is kept in some parts of Norfolk, where extensive broads and interminable drains form a watery labyrinth, from which no common Duck would easily be recovered. The same stay-at-home habit and indifference to water point out the Musk Duck as a suitable inhabitant of the stable-yards and open spaces of a town, or of a suburban villa. Another advantage is, that it is not apt to lay astray, or steal a nest in exposed or unsafe places, but deposits its eggs in the fowl-house, and will afterwards contentedly sit there. Occasionally it will establish itself on the top of a stack, or in a hay-loft, or granary, and make its nursery there.

The eggs are scarcely distinguishable from those of the common Duck; they are well flavoured. The time of incubation is five weeks: but in all birds that I have observed, the duration of that period varies so much according to circumstances, that a mean of many observations must be taken to arrive at a correct standard. The time required by the hybrid eggs between this and the

common Duck, is intermediate between the respective periods. "I have never known five weeks exceeded beyond one day; and the difference between the incubation of the natural mother and the common Hen I have found to be rather in favour of the former, who, if she is not quite so constant a sitter, makes more than amends by the lining of down which she gives to her nest, and by covering her eggs whenever she leaves them, which, I need not say, the Hen never does."—A. W.

If it is wished that the Duck herself should incubate, it will be better not to remove the eggs, as laid, from the nest.

The newly-hatched young also resemble those of the common Duck; their minute claws, however, are sharper; they are covered with down, the shades of which indicate the colour of the future feathers; and they do not for some time show any appearance of the tuberculated face. They are delicate, and require some care while young, but are quite hardy when full grown. Their food should be anything that is nutritious, and plenty and a variety of it. How the little Musk Ducks that happen to be hatched in elevated situations manage to descend, is a curious point in natural history. My own idea is, that the force of gravitation is quite sufficient to effect the transfer, and that seldom any other agent is employed. They would suffer little more from a tumble off a haystack upon the litter around it, or from the roof of a country house to the elastic lawn beneath, than a child's powder-puff, if tossed from the highest steeple in England. When once on the ground, the Duck would collect her scattered brood, in the same way as a Pheasant, a Partridge, or a self-set Hen. I have been told, on good authority, that in such cases the Duck carries them down severally in her beak, a mode of conveyance which may be occasionally practised, if we place any faith in similar instances. Audubon, speaking of the American Wood Duck, remarks, "they always reminded me of the Muscovy Duck, of which they look as if a highly-finished and

flattering miniature;" and tells us that "they appear at all times to prefer (for their nest) the hollow broken portion of some large branch, the hole of our largest woodpecker (*Picus principalis*), or the deserted retreat of the fox-squirrel." . . . "If the nest is placed immediately over the water, the young, the moment they are hatched, scramble to the mouth of the hole, launch into the air with their little wings and feet spread out, and drop into their favourite element; but whenever their birth-place is at some distance from it, the mother carries them to it one by one in her bill, holding them so as not to injure their yet tender frame. On several occasions, however, when the hole was thirty, forty, or more yards from a bayou or other piece of water, I observed that the mother suffered the young to fall on the grass and dried leaves beneath the tree, and afterwards led them directly to the nearest edge of the next pool or creek. At this early age, the young answer to their parent's call with a mellow *pee, pee, pee,* often and rapidly repeated."—*American Ornithological Biography*, vol. 3, pp. 54, 55.

The Musk Duck is excellent eating if killed just before it is fully fledged; but it is longer in becoming fit for the table than the common Duck. Their flesh is at first high-flavoured and tender, but an old bird would be rank, and the toughest of tough meats. It is strange that a dish should now be so much out of fashion as scarcely ever to be seen or tasted, which, under the name of Guinea Duck, graced every feast a hundred and fifty years ago, and added dignity to every table at which it was produced.

The domesticated bird is most frequently parti-coloured, with irregular patches of black, white, and brownish grey, the black prevailing on the upper, and the white on the under surface of the body. It has been seen that occasionally they are white; but their filthy habits render these not desirable. Brown and white is a more rare colouring. Sometimes they are met with entirely black, which is by far the most ornamental variety; it is, moreover, as we are informed, the colour

of the wild bird; and in a collection of ornamental poultry it is desirable to select those individuals which most closely represent the native appearance of their species. The black is beautifully metallic, somewhat iridescent and shaded with golden green. The feathers on the back are broad, and exhibit a handsome imbricated appearance. The eye is large, full, and clear; and the red tubercles and skin at the base of the bill are strikingly contrasted with whatever coloured plumage the bird may be clothed with.

THE GUINEA-FOWL.

" The Meleagris is a most beautiful bird, in size of body, figure, bill, and foot, similar to a Pheasant; with a horned crown sitting on its head like the ducal cap of the most illustrious Doge of Venice. The colour of its throat is exquisitely purple; the rest of the body, if you take an upper view, is as if any one had separately sprinkled it with black and with white flour, ground finely but not mixed. You will hardly distinguish the male from the female: its voice is a divided creaking not more sonorous than the voice of a Quail. In running it is swift."—JOANNES CAIUS's *Libellus on the rarer Animals and Plants*, 1570.

WE have refrained from applying the term " Pintado" to the Guinea-fowl: that word, signifying in the Portuguese language " painted," and having been first appropriated to the black and white-chequered Petrel (*Procellaria Capensis*) by the navigators who found them in the South Seas. The Guinea-fowl is frequently called a Gallina, especially in Ireland. But under whatever denomination, it is no great favourite with many keepers of poultry, and is one of those unfortunate beings which, from having been occasionally guilty of a few trifling faults, has gained a much worse reputation than it really deserves, as if it were the most ill-behaved bird in creation:—whereas, it is useful, ornamental, and interesting during its life; and when dead a desirable addition to our dinners, at a time when all other poultry is scarce.

The best way to *begin* keeping Guinea-fowls is to procure a sitting of eggs from some friend or neighbour on whom you can depend for their freshness, and also, if possible, *from a place where only a single pair is kept.*

The reason of this will be explained hereafter. A Bantam Hen is the best mother; she is lighter, and less likely to injure them by treading on them than a full-sized fowl. She will cover nine eggs, and incubation will last a month. The young are excessively pretty. When first hatched, they are so strong and active as to appear not to require the attention really necessary to rear them. Almost as soon as they are dry from the moisture of the egg, they will peck each other's toes, as if supposing them to be worms, will scramble with each other for a crumb of bread, and will domineer over any little bantam or chicken that may perhaps have been brought off in the same clutch with themselves. No one, who did not know, would guess, from their appearance, of what species of bird they were the offspring.

The young of the Guinea-Fowl are striped like those of the Emu, as shown in the late Mr. Bennet's pleasing description of the Zoological Gardens, as they were in his days. Their orange-red bills and legs, and the dark, zebra-like stripes with which they are regularly marked from head to tail, bear no traces of the speckled plumage of their parents.

Ants' eggs (so called), hard-boiled egg chopped fine, small worms, maggots, bread crumbs, chopped meat or suet, whatever in short is most nutritious, is their most appropriate food. This need not be offered to them in large quantities, as it would only be devoured by the mother Bantam as soon as she saw that her little ones had for the time satisfied their appetites, or would be stolen by sparrows, &c.; but it should be frequently administered to them in small supplies. Feeding them three, four, or five times a day, is not nearly often enough; every half-hour during daylight they should be tempted to fill their little craws, which are soon emptied again by an extraordinary power and quickness of digestion. The newly-hatched Guinea-fowl is a tiny creature, a mere infinitesimal of the full-grown bird; its growth is consequently very rapid, and requires incessant supplies. A

check once received can never be recovered. In such cases they do not mope and pine for a day or two, like young Turkeys under similar circumstances, and then die; but in half an hour after being in apparent health, they fall on their backs, give a convulsive kick or two, and fall victims, in point of fact, to starvation. The demands of nature for the growth of bone, muscle, and particularly of feather, are so great, that no subsequent abundant supply of food can make up for a fast of a couple of hours. The feathers still go on, grow, grow, grow, in geometrical progression, and drain the sources of vitality still faster than they can be supplied, till the bird faints and expires from inanition. I have even fancied that I have seen a growth of quill and feather after death in young poultry which we had failed in rearing. The possibility of such a circumstance is supported by the well-known fact of the growth of hair and nails in many deceased persons.

This constant supply of suitable food is, I believe, the great secret in rearing the more delicate birds, Turkeys, Guinea-fowls, Pheasants, &c.; never to suffer the growth of the chick (which goes on whether it has food in its stomach or not), to produce exhaustion of the vital powers, for want of the necessary aliment. Young Turkeys, as soon as they once feel languid from this cause, refuse their food when it is at last offered to them (just like a man whose appetite is gone, in consequence of having waited too long for his dinner), and never would eat more, were food not forced down their throats, by which operation they may frequently be recovered; but the little Guinea-fowls give no notice of this faintness till they are past all cure; and a struggle of a few minutes shows that they have indeed outgrown their strength, or, rather, that the material for producing strength has not been supplied to them in a degree commensurate with their growth.

A dry sunny corner in the garden will be the best place to coop them with their Bantam Hen. As they increase in strength they will do no harm, but a great deal of good,

by devouring worms, grubs, caterpillars, maggots, and all sorts of insects. By the time their bodies are little bigger than those of sparrows, they will be able to fly with some degree of strength; and it is very pleasing to see them essay the use of their wings at the call of their foster-mother, or the approach of their feeder. It is one out of millions of instances of the provident wisdom of the Almighty Creator, that the wing and tail feathers of young gallinaceous birds, with which they require to be furnished at the earliest possible time, as a means of escape from their numerous enemies, exhibit the most rapid growth of any part of their frame. Other additions to their complete stature are successively and less immediately developed. The wings of a chicken are soon fledged enough to be of great assistance to it; the spurs, comb, and ornamental plumage do not appear till quite a subsequent period.

When the young Guinea-fowl are about the size of thrushes, or perhaps a little larger (unless the summer be very fine), their mother Bantam (which we suppose to be a tame, quiet, matronly creature) may be suffered to range loose in the orchard and shrubbery, and no longer permitted to enter the garden, lest her family shonld acquire a habit of visiting it at a time when their presence would be less welcome than formerly. They must still, however, receive a bountiful and frequent supply of food; they are not to be considered safe till the horn on their heads is fairly grown. Oatmeal (*i. e.* groats), as a great treat, cooked potatoes, boiled rice, anything in short that is eatable, may be thrown down to them. They will pick the bones left after dinner with great satisfaction, and no doubt benefit to themselves. The tamer they can be made, the less troublesome will those birds be which you retain for stock; the more kindly they are treated, the more they are petted and pampered, the fatter and better conditioned will those others become which you design for your own table, or as presents to your friends, and the better price will you get if you send them to market.

At a certain period they will have got beyond the management of their good mother-in-law, and will cast off her authority. They will form what has appropriately been called a "pack;" prowling about in a body after insects and mast, or grazing together (for they eat a great deal of grass*) still in a pack; fiercely driving away any intruder on their society, and all giving tongue in one chorus at the approach of any danger.

Birds thus reared on the spot where they are meant to be kept, are sure to thrive better and give less trouble than those procured from a distance; which sometimes will not remain in their new home, but wander about in search of their old haunts till they either find them, or are themselves lost, destroyed, or stolen. All the poultry-books that I have seen are very meagre, and sometimes erroneous in their directions for the management of the less common fowls. For instance, not one that I am aware tells you that the Guinea-fowl is a monogamous bird, pairs with his mate, like a Partridge or a Pigeon, and remains faithful to her (perhaps with one or two trifling peccadilloes) so long as they continue to live together. It is generally supposed that the male Guinea-fowl, like the common Cock, is pleased with a plurality of wives; and the supposition is acted on with bad practical effect. In the case where a Guinea cock and two hens are kept—a usual number—it will be found on close observation that though the three keep together so as to form one "pack," according to their original instinct, yet that the cock and one hen will be unkind and stingy to the other unfortunate female, keep her at a certain distance, merely suffering her society, and making her feel that she is with them onlyon sufferance. The neglected hen will lay eggs, in appearance, like those of the other,

* Mr. Swainson points out the analogy which exists between the horned birds, the Cassowary, Curassow, and Guinea-fowl among the feathered tribes, and the ruminants among quadrupeds; the quantity of grass eaten by the last-mentioned birds confirms his view of the subject.

but not so many; probably, in the same nest. If they are to be eaten, all well and good; but if a brood is wanted, and the eggs of the despised one chance to be taken for the purpose of hatching (and there is no possibility of distinguishing them without breaking them,—unless, it may be, the oxyhydrogen microscope could be made to throw light through them, as well as upon them), the result is disappointment and addle eggs. If the produce of the favourite (or rather let us say of the lawful wife) are selected, at the end of the month you have so many strong chicks; if a mixture of eggs come to hand, the hatch is in proportion. I have known this occur repeatedly. Therefore let all those who wish to succeed with Guinea-fowls, match their birds as strictly as the couples in a country dance.

It is not every one who knows a cock from a hen of this species. An unerring rule is, that the hen alone uses the call-note "come-bàck, come-bàck," accenting the second syllable strongly, from which they are usually called "come-backs," in Norfolk; the cock has only the harsh shrill cry of alarm, which, however, is also common to the female. A widowed hen, whose husband had been unceasingly and irreclaimably impertinent to a noble Game Cock, and who lately lost her spouse in the duel provoked by his own repeated insolence, is, while I write, piping her melancholy cry, "come-bàck, come-bàck," under my study window.

> "Te, dulcis conjux, te solo in litore secum,
> Te, veniente die, te decedente canebat."

Not translated thus:—

> "Restore, restore Eurydice to life:
> O take the husband, or return the wife!"

Back, however, he comes not, nor will come, in spite of her plaintive invitation, which will, doubtless, continue to touch our hearts, and grate our ears, till she is consoled for her bereavement by a second union.

Their amours are conducted with strict decorum and privacy. The cock, however, is properly polite and attentive to his own hen in public, walking very close by her side, so as to touch her wings with his own, offering her tit-bits now and then, a worm or a grain of corn ; he has also a habit of running very quick for a few steps, and then walking affectedly on tip-toes, with a mincing air, like the dandy in a Christmas pantomime, setting up his back and increasing his apparent height. These latter symptoms are less evident in youth, when it is necessary to make the selection, and the call-note will be found the safest guide.

Of all known birds, this, perhaps, is the most prolific of eggs. Week after week, and month after month, sees no, or very rare, intermission of the daily deposit. Even the process of moulting is sometimes insufficient to draw off the nutriment the creature takes, to make feathers instead of eggs, and the poor thing will sometimes go about half naked in the chilly autumnal months, like a Fowl that had escaped from the cook to avoid a preparation for the spit ; unable to refrain from its diurnal visit to the nest, and consequently unable to furnish itself with a new great coat. As the body of a good cow is a distillery for converting all sorts of herbage into milk, and nothing else, or as little else as possible, so the body of the Guinea hen is a most admirable machine for producing eggs out of insects, vegetables, grain, garbage, or whatever an omnivorous creature can lay hold of.

From this great aptitude for laying, which is a natural property, and not an artificially encouraged habit, and also from the very little disposition they show to sit, I am inclined to suspect that in their native country, the dry burning wastes of Central Africa, they do not sit at all on their eggs, but leave them to be hatched by the sun, like Ostriches, to which they bear a close affinity. That they do in this country occasionally sit and hatch is no valid objection to this idea, but only an instance of habits modified by a change of climate, similar to the

cessation of torpidity, and to the brown, instead of white, winter dress in animals brought from the arctic regions to temperate climates. Even in Great Britain there are not enough Guinea-fowls hatched by their actual parents to keep the breed from becoming extinct in a few years. It is certain that the sands of tropical Africa are more than hot enough to hatch them, and that the young birds are unusually vivacious and independent, if they have but a supply of proper food, which they would find in the myriads of insects engendered there. They are also found wild on the Island of Ascension, but it is doubtful whether any accurate account of their habits or mode of increase there is yet extant.

Housewives complain that they are apt to lay astray in the hedge-rows and copses; but what does it matter, if the people about you are but honest (and the way to make and keep them so is to treat them kindly and liberally), what does it matter whether you get one egg a day, or seven at the end of a week? And nest-hunting is always good fun for the children, and sometimes for the master and mistress.

Guinea-fowl have another Ostrich-like habit. When a nest is robbed of its eggs, it is generally deserted by the birds, who never again make use of it from that time. Occasionally, however, especially if it be among rough herbage and low shrubs, at the end of three or four days, it will be found partially refilled, *and containing more eggs than the bird could have laid in the interval.* I was at first puzzled to account for this, till I discovered that the Guinea-fowl replaced her plundered property by rolling into the nest outlying eggs that had been laid previously.

When a Guinea-hen is known to be sitting, it is desirable to have her watched, so that the moment the young leave the shell she may be secured and placed with her brood under a coop, where she will rear them as well as a Hen. The Guinea-fowl hatches a large number, when she does hatch at all. I have heard of as many as

thirty-two chicks, which were dragged about by the mother, and lost in a field of wheat. Twenty-two have been reared when she has been caught and confined.

The cock attends his own hen to the nest, waits for her close at hand till she has made her daily contribution to the treasure already there, and occasionally will betray the situation of the secret hoard by his extreme solicitude in announcing the presence of intruders.

"Eggs . . . distinct with points, as in the Guinea-fowl."—*Pliny*, lib. x., clxxiv.

Eggs of the Guinea-fowl are occasionally produced covered with wrinkles, as if the shell had shrunk in the process of hardening. These sometimes are confined to one (the smaller) end, and sometimes extend over the whole surface. They are evidently the result of weakness or over-exertion of the egg-organs, appearing in young and healthy birds only at the close of their long laying season; in old and weak ones, showing themselves in the first-laid eggs, and increasing in depth and extent as the season advances. The same thing is less frequently seen among Turkeys that are about to cease laying. Such eggs are quite good for the table, but should not be taken for the purpose of hatching. They appear to contain a less proportion of yolk than the perfect egg.

Guinea-fowl are in season from the middle of December till April, but are usually reserved till the latter part of that term, in order to occupy the gap caused by the deficiency of game. And therefore the best time of the year for the amateur to procure any particular variety, is towards the close of the game season, at the end of February and beginning of March. A walk round the shops of the game-dealers will then give information of what sorts are reared in the neighbourhood, and those required may be ordered to be supplied alive. They usually weigh from three to four pounds each, and fetch from 5*s*. 6*d*. to 7*s*. the couple in Norfolk. It is of no use attempting to shut them up to fatten, unless they have previously been made particularly tame, as they

would sulk, pine, and die before they became reconciled to confinement, in spite of its extra diet. But if they have become familiar, the whole pack may be confined in company together in a roomy outhouse, and be supplied with all the oats they can eat, with considerable advantage. The sure plan, therefore, is to keep them in high condition during the winter, by liberal hand-feeding. The practice is not to kill them with the knife, like other poultry, but to dislocate their necks, leaving the blood in them to remedy the dryness of their flesh, which is the great fault an epicure would find with them. They should also remain in the larder as long as possible before being cooked. It was formerly the fashion for farmer's wives and daughters to make tippets and muffs of the smaller feathers, which much resembled chinchilli fur in appearance, and were both elegant and useful.

The normal plumage of the Guinea-fowl is singularly beautiful, being spangled over with an infinity of white spots on a black ground, shaded with grey and brown. The spots vary from the size of a pea to extreme minuteness. Rarely the black and white change places, causing the bird to appear as if covered with a network of lace.

"*Marggravius* saw others brought out of *Sierra Lyona* like to the above described (Guiny Hen), whose Neck was bound or lapped about with, as it were, a membranous cloth of a blue ash-colour. A round many-double tuft, or crest consisting of elegant black feathers, covers the head. The white points or spots round the whole body are variegated, as it were, with a shade." (*Willughby*, p. 163.) A white variety is not uncommon, and is asserted by a Yorkshire correspondent of the "Gardener's Chronicle," to be equally hardy and profitable with the usual kind; but the peculiar beauty of the original plumage is, surely, ill exchanged for a dress of not the purest white. It is doubtful for how long either this or the former one would remain permanent; probably but for few generations. Pied birds blotched with patches of white are frequent, but are not comparable in point of

beauty with those of the original wild colour. The figure in Sir W. Jardine's "Naturalist's Library" is evidently taken from one of the pied varieties. The ancients seem to have been acquainted with two or three species, the description of which hardly answers to those we know at the present day.

There exist, however, several little known species.

"The Africana, which most people call a Numidica, is like a Meleagris, except that it bears on its head a red helmet and comb, both which are blue in the Meleagris." *Columella*, lib. viii. c. 2.

The head and face of our birds are remarkable. The scarlet wattles, naked skin, distinct mark of the eye-brow, bright glancing eyes, and comical quick expression, make, at a front view, a perfect miniature of a clown dressed and painted for the circus or the pantomime.

I am informed that gun-dogs set or point at Guinea-fowls that happen to stray in the fields, as if they were Partridges.

THE CHINA GOOSE (Cygnöides).

"I see we still did meet each other's man,
And I was ta'en for him, and he for me,
And thereupon these errors are arose.
Methinks, you are my glass, and not my brother;
I see by you, I am a sweet-faced youth."
Comedy of Errors. Act 5.

There is a venerable joke about a Spanish Don who knocked at a cottage door to ask a night's lodging. "Who's there? What do you want?" said the inmates. "Don Juan José Pedro Antonio Alonzo Carlos Geronimo, &c., &c., &c., wants to sleep here to-night." "Get along with you," was the reply: "how should we find room here for so many fellows?" The China Goose is in the same position as the Spanish Don. It has names enough to fill a menagerie. China Goose, Knob Goose, Hong Kong Goose, Asiatic Goose, Swan Goose, Chinese Swan (*Cygnus Sinensis*, Cuvier), Guinea Goose, Spanish Goose, Polish Goose, Anas and Anser cygnöides, Muscovy Goose, and probably more besides.

Confusion, therefore, and perplexity, are the certain lot of whosoever attempts to trace this bird in our books of natural history. Its place of birth has excluded it from all monographs or limited ornithologies. In very few systematic works is it mentioned at all, which is remarkable of a bird so striking in its appearance, which there is every reason to believe must have been domesticated for a long period. The uncertainty that has existed as to its correct name and really native country may be one

cause of this. Like the Jews or the Gipsies, it has not been allowed to claim a place among the natives of any one region ; and like many others furnished with a variety of aliases, it ends by being altogether excluded from society.

The old writers call it the Guinea Goose, for the excellent reason, as Willughby hints, that in his time it was the fashion to apply the epithet "Guinea" to everything of foreign and uncertain origin.* Thus, what we at this day erroneously call the Muscovy Duck was then called the Guinea Duck. Not long back it was common with us to refer every strange or new object to a French source. Spanish Goose is another title, probably as appropriate as Guinea Goose. Bewick has given an admirable woodcut of this bird, but he has evidently selected the gander, which is taller and more erect than the female, though to both may be applied Willughby's description, "a stately bird, walking with its head and neck, decently erected." Bewick calls it the Swan Goose. The tubercle at the base of the bill, the unusual length of neck, and its graceful carriage in the water, give it some claim to relationship with the aristocracy of lake and river. Cuvier (Griffiths' edition) goes further, calls it at once Cygnus Sinensis, Chinese Swan, and says that this and the Canada Goose cannot be separated from the true Swans. A Goose, however, it decidedly is, as is clear from its terrestrial habits, its powerful bill, its thorny tongue, and its diet of grass. And therefore we have determined to call it the China Goose, concluding that Cuvier is right about its home,† and other authors about its goosehood.

* The epithet "Indian" has also answered the same accommodating purpose. "The lesser kind I coniecture to be the right, *Mambrine* or *Syrian* Goat, although some of the late writers call it an Indian Goat, the reason is, because (as hath beene said) they cal al strange beasts by the names of Indians, if they find them not in their owne countrey."—*Topsell's History of Foure-footed Beasts*, p. 236.

† In journeying overland (in books of Travels), we meet with the Swan Goose, more frequently as we approach Tartary and China.

There is something in the aspect of this creature, the dark-brown stripe down its neck, its small bright eye, its harsh voice, its ceremonious strut, and its affectation of seldom being in a hurry, which seems to say that it came from China. It would perfectly harmonise in a picture of Chinese still life; or in a Chinese garden, with artificially arranged rocks, dwarf trees, crooked trellises, and zigzag pathways; or, in a more extended landscape, it would group well on a broad river, beside a boat filled with shaven fishermen, with their trained cormorants and pig-tailed children. If it does come from China, it has no doubt been domesticated for many hundred years, perhaps as long as the Peacock or common Fowl. They may be made to lay a large number of eggs by an increased supply of nourishing food. This is very different from the disposition to "lay everlastingly," as seen in the Guinea-fowl, and some varieties of the domestic Hen—the black Spanish, for instance; because the China Goose does in the end feel a strong desire to incubate as soon as her protracted laying is done, whereas entire exemption from the hatching fever is the great merit of the "everlasting layers." If liberally furnished with oats, boiled rice, &c., the China Goose will in the spring lay from twenty to thirty eggs before she begins to sit, and again in the autumn, after her moult, from ten to fifteen more. I have never observed any disposition to sit after the autumnal laying. It is not, as in the Guinea-fowl, a spontaneous flow of eggs, for which the ordinary diet of the creature is sufficient, but is as much dependent on feeding as the fatness to which a bullock is brought. A Goose that I supplied with as much oats as she could eat, besides grass, potatoes, and cabbages, laid eggs larger than ordinary; one of them (with a double yolk) weighed seven and a half ounces, nearly half a pound. I need hardly say that double-yolked eggs are very rare, except among birds that are highly fed.

Another peculiarity is their deficient power of flight compared with the rest of their congeners, owing to the

larger proportionate size of their bodies.* The common domestic Goose flies much more strongly than its brother from China. Indeed of all Geese this is the worst flyer. There is no occasion to pinion *them*. While the Canada Goose thinks little of a journey from the North Pole or thereabouts to Great Britain, while the Egyptian Goose pays us occasional visits from Africa, while the merry little Laughing Goose, if tamed and allowed the use of its wings, is almost as much at ease in the air as a Pigeon, the Chinese Goose can hardly manage to flutter across a lawn, to get out of the way of a frisky spaniel.

"Said the Tame Goose to the Wild one, 'on such a day I shall fly away.' Said the Wild Goose to the Tame one, 'I shall fly away on such a day, if it be the will of Allah.' At the appointed time the Wild Goose performed her yearly migration: the Tame Goose cannot fly to this day." If China, instead of Egypt, had produced the above fable, we should believe that the Anas cygnöides was the vain boastful bird.

The large number of eggs laid by these birds has led some persons to imagine that, like Guinea-fowls, they were inexhaustible, so that when at last the Goose did make her nest in earnest (which may be known by her

* "In opposition to this statement, permit me to say, that the China Geese, if true bred, fly very well, at a considerable height and long distances. As a proof that they fly, many years since, a labourer coming to his work at Capesthorne, near Macclesfield—Mr. Davenport's—found an egg on the grass in the park, evidently dropped by some bird that had flown over, as no such Geese were known there. The egg was set, and produced a Chinese Goose, which lived more than twenty years, having died about three years since, apparently of old age. I have often seen the Goose, and sent a China Gander to solace her declining years, but she would not allow him to come near her. Last year, I used often to admire the fine sweeping flights of five of this breed near my house, I am quite sure as to many of this breed flying quite well and strong."—*W. D. F.* I can only account for this by the fact that there are more varieties of the China Goose than is commonly suspected, as nothing like the power of flight here described, the truth of which cannot be doubted, has ever fallen under my own observation, at home or elsewhere.

mixing her own down with the straw) no eggs had been reserved for the poor thing to sit upon. The best plan is to date the eggs with a pencil, as they are laid, and to consume only those which are more than three weeks old. They are usually very late with their broods, but will rear them well enough if they are allowed to take their own time, and do it after their own manner. My China Goose has now (June 1848) laid thirty eggs, without intimating any intention of sitting, but she has annually brought off a family for the last five years, and I doubt not she will again this season. When the fit comes, she will take possession of her milk-pan, which stands in a large boarded coop, like a dog-kennel. Once duly enthroned there, she will maintain her seat with proper perseverance and tenacity. A neighbour discarded his China Goose because she was always found standing over her eggs, instead of sitting upon them. But those were only the preliminaries, the overture to the performance. Hurry no man's cattle ; and you may as well try to hurry the Emperor, as the Goose, of China. Their time of incubation is five weeks. I have always found them steady sitters when they once begin in earnest, and exemplary parents. The Goose, on leaving her nest to feed, covers her eggs carefully. Any difficulty in rearing them results from want of proper management. If, for instance, when the bird does at length sit, she is insufficiently supplied with eggs, or with those which have been kept too long; or if she be permitted to be disturbed by dogs, &c.; if she be suffered to steal a nest, and sit on more than she can cover—things will go wrong. The great number of eggs laid may perhaps cause an uncertainty that each one is properly fecundated. A China Goose, after sitting a fortnight, was driven from her nest by a sow that had been permitted to get loose : the eggs were eaten, shells and all, and the poor bird expressed her agony of mind, both by her cries and actions. After she became a little calm, her nest was remade and supplied with fresh eggs. She continued to sit for three weeks longer, as well as

could be. At the end of the usual period of five weeks, she gave up her task as useless, believing the eggs to be addled, which they were not; and we unfortunately knew no language by which we could persuade her that if she would only persevere for another fortnight, the reproach of barrenness would be taken away from her.

These are annoying cases to practical ornithotrophists. But even here the difficulty need not have been insurmountable; and where there 's a will there 's a way. A worthy old couple had the misfortune to have their sitting Goose killed in one of her daily promenades, a few days before the goslings were ready to leave the shell. What was to be done? The eggs were cooling fast; no time was to be lost. Difficult emergencies excite brilliant efforts of genius. In an instant the old man was undressed and in bed. To him the orphan eggs were transferred. When he grew tired of his lying in, the old lady took her turn till the goslings were safely hatched.

The prevailing colour of the plumage of the China Goose is a brown, which has aptly been compared to the colour of wheat. The different shades are very harmoniously blended, and are well relieved by the black tuberculated bill, and the pure white of the abdomen. Their movements on the water are graceful and swan-like. It is delightful to see them, on a fine day in spring, lashing the water, diving, rolling over through mere fun, and playing all sorts of antics. Slight variations occur in the colour of the feet and legs, some having them of a dull orange, others black: a delicate fringe of minute white feathers is occasionally seen at the base of the bill. These peculiarities are hereditarily transmitted. But the White China Goose, if it be not specifically distinct, is a variety so decidedly marked as to demand a separate notice.

The male is almost as much disproportionately larger than the female as the Musk-Drake is in comparison with his mate. He is much inclined to libertine wanderings, without, however, neglecting to pay proper attention at

home. If there is any other Gander on the same premises, they are sure to disagree: one of the two had better be got rid of. Both male and female are, perhaps, the most noisy of all Geese: at night, the least footfall or motion in their neighbourhood is sufficient to call forth their clanging and resonant trumpetings. This, to a lone country-house, is an advantage and a protection. Any fowl-stealer would be stunned with their din before he captured them alive, and the family must be deaf indeed that could sleep on through the alarm thus given. But by day it becomes a nuisance to the majority of hearers, and has caused them to be relinquished by many amateurs. One is inclined to address them as O'Connell did the uproarious fellow who was interrupting his speech, "I wish you had a hot potato in your mouth." Or they might take a lesson from Ælian's geese:—"The Geese, when shifting about Mount Taurus, are afraid of the eagles, and each one of them taking a stone in its mouth, that they may not cry out, as if putting a gag upon themselves, fly through their course in silence, and in this manner generally quite escape the notice of the eagles."—Book v., chap. 29. We, however, prefer that our Geese should silence themselves with grass and corn.

The eggs of the China Goose are somewhat less than those of the domestic kind, of a short oval, with a smooth thick shell, white, but slightly tinged with yellow at the smaller end. The goslings when first hatched are usually very strong. They are of a dirty green, like the colour produced by mixing Indian ink and yellow ochre, with darker patches here and there. The legs and feet are lead colour, but afterwards change to a dull red. If there is anything like good pasturage for them they require no further attention than what their parents will afford them. After a time a little grain will strengthen and forward them. If well fed, they come to maturity very rapidly. In between three and four months from the time of their leaving the shell, they will be full grown and ready for the spit. They do not bear being shut up to fatten so

well as common Geese, and therefore those destined for the table are the better for profuse hand-feeding. Their flesh is well-flavoured, short, and tender; their eggs are excellent for cooking purposes. I have heard complaints of their being a short-lived species, from good authority, and that the ganders at least do not last more than ten or a dozen years. The instance above-mentioned does not show them to be long-lived. I cannot verify the facts, as my own experience with these birds extends only to about eight years, but it is quite in opposition to the longevity ascribed to other Geese. Hybrids between them and the common Goose are prolific with the common goose; the second and third cross is much prized by some farmers, particularly for their ganders:* and in many flocks the blood of the China Goose may often be traced by the more erect gait of the birds, accompanied by a faint stripe down the back of the neck. With the White-fronted Goose they also breed freely.

In the very clear and useful "Manual of British Vertebrate Animals," by the Rev. Leonard Jenyns, this bird is recorded as Cygnus Guineensis, or Guinea Swan, another synonyme; though it is hesitatingly added, "Native country somewhat doubtful."

* "I can warmly recommend the cross of the China Gander with the common Goose as producing finer birds and of much finer flavour; I have kept them for years. Indeed I like the cross better every season, and have given Ganders to several friends to adopt the same plan."—*W. D. F.* "They frequently couple with our tame *Geese*, and produce a bastard kind between both; they are excellent meat when young and fat, being of a different and pleasant taste from that of the *common Goose*."—*Albin*, vol. i. p. 87.

"I cannot say that I admire the edible qualities of the Canada Swan, for such it properly is. We tried one here a few years back, and only voted it, I believe unanimously, extremely good for nothing. The knob-fronted, or Swan Goose, is really a good bird, and I have known some families which regularly kept them for the table in preference to the common bird."—*E. of D.*

"In the government of Penda, all kinds of poultry are of a large size; the Geese are mostly of a spurious breed from the Chinese, or those with a swan-neck; and in every village pigeons fly about in abundance.'—*Pallas, South Russia*, vol. ii. p. 18.

THE WHITE-FRONTED, OR LAUGHING GOOSE.

"The watir Foulis have ther hedis laide
Togidir, and of shorte avisèment,
Whan evèriche had his verdite ysaide,
They saidin sothely al by one assent
Howe that the Gose, with the facondè gent,
That so desirith to pronounce our nede,
Shal tel our tale, and prayed to God her spede."

CHAUCER.—*The Assemble of Foules*, c. 552.

ORNAMENTAL Poultry may be divided into three classes, not with reference to their beauty or their natural arrangement, but in respect of their capabilities for domestication. The first class comprises those that are really domestic (if we derive the word from domus, a house), that unhesitatingly confide themselves to the protection of Man, and may be trusted with their complete liberty, in the certainty that they will prefer the shelter of his roof, at proper times and seasons, to a state of nature. This would include Cocks and Hens, some Pigeons, Turkeys, the Common Domestic, and the China Geese, the Musk Duck, and a few others.

The Second Class includes those birds which are restrained from resuming their original wild habits, more by the influence of local and personal attachment, than from any love they seem to have for the comforts of domestication; which may be trusted with their entire liberty, or nearly so, but require an eye to be kept on them from time to time, lest they stray away and assume an independent condition. In this class we have the

Pea-fowl, the White-fronted Goose, the Wigeon, the Canada Goose, the Egyptian Goose, and others, including perhaps the Common Duck.

The third class embraces all those birds which, however familiar they may become, so as even to eat from the hand of their keeper, are yet in their hearts as untameable as a fly; and must, therefore, be kept in complete, though to many eyes invisible restraint, lest they withdraw themselves completely from all human control; and whose taste for domestication does not seem to increase, though many successive generations of them have been bred in captivity. In this class we have the Swan, the Teal, the common Gallinule, the Pheasant, the Nycthemerus, and indeed all the inmates of our cages, aviaries, and menageries, that are not included in the first and second classes.

It is clear that from the second class alone can we hope to obtain any useful and profitable addition to our stock of poultry. A bird must be found to belong undoubtedly to that, before it can be promoted into the first class. The great difficulty in looking over this unlimited third class, is to discover which species may be advanced into the second. Some are decidedly hopeless cases. The Swan, for instance, and the Pheasant, are no more likely at this moment to become domestic than they were when first discovered amidst the streams and copses of Western Asia. Ages before the discovery of America, while the Turkey remained yet unsuspicious of the settler's rifle, they were as domestic as they now are, and as they are ever likely to be. It is true Temminck speaks of the *Cygne Domestique*, and says that it "lives in domesticity in most countries, very abundant in Holland"—but the term domesticity appears only likely to lead into error, when applied to a creature that hates the confinement of a house, pining and wasting if compelled to remain long in one, the use of whose wings is obliged to be curtailed by amputation, which is kept within bounds on a stream only by mutual jealousy and the difficulty it has in

travelling far by land, to say nothing of park-palings and mill-dams.

It is doubtful whether the Collections of the Ornithological and Zoological Societies, valuable and most interesting as we see them to be in St. James's and the Regent's Parks, are likely to do much in increasing our knowledge of the capabilities of domestication inherent in various birds. The specimens are so much under control, so completely circumscribed and dependent, that it is impossible to say whether they belong to our third or second class. If there were in these collections any unsuspected first-class bird, all ready disciplined for full liberty and domestication, its merits and claims could hardly be discovered in the restraint of a menagerie: its prolific powers would certainly be cramped and checked. On the other hand, who, seeing the Water-hens there, and knowing their familiar, approximately-domestic habits, in situations of less restraint, would suspect how invincibly they resist all real domestication?—being, as the Rev. R. Lubbock says, in his delightful "Fauna of Norfolk," "a very difficult bird to retain in captivity, even when deprived of the power of flight. A walled-in garden has proved insufficient. The trees against the wall are made use of, and the captive claws up by degrees to the top, tumbles down upon the other side, and walks off with the air of a Jack Sheppard."

Much ornithological information has of late been obtained, though unfortunately little has been published, by gentlemen who have the means of giving full scope to a few favourites; and if the Societies in question are anxious to effect one of the objects of their institution, namely, the domestication of new and valuable birds and animals, they must enlist the aid of the educated Amateur, the resident Squire, the intelligent and influential Steward, the Farmer, and the country Clergyman.

The White-fronted Goose is an excellent example of our second class, and well deserves the patronage of those who have even a small piece of grass. Its natural history

in a wild state is fully detailed in Mr. Yarrell's valuable "British Birds;" the figure also is very good, though it is a pity that a pair of Geese were not given; but as the works of that gentleman, like every other original book on the subject, have been largely drawn upon, I refrain from borrowing what he has written, particularly as the object of this volume is, not to encroach upon the department of the systematic naturalist, but merely to state what has been observed of birds that have been reclaimed.

The first impression of every one who saw the White-fronted Goose in confinement, would be that it could not be trusted with liberty; and the sight of it exercising its wings at its first escape would make its owner despair of recovering it. A pair of young ones that were bred in this country were kindly supplied to me, and though they were evidently not wild, their friskiness and vivacity were such that it appeared best to shorten the quill feathers of one wing, and so deprive them of the power of flight till their next moult. Long before that time, however, their confidence and attachment removed all hesitation as to the future. Now, at the most distant sound of my voice, they will come flying, like Pigeons, to alight at my feet; and occasionally, particularly in winter and spring, perform graceful evolutions in the air, that show great power of wing and enjoyment in its exercise. They are perfectly unrestrained, except that the kitchen-garden is forbidden to them. During the severe weather in the winter of 1846-7, while the herbage was buried deep under the snow, we feared they might be tempted to join some of their travelling relations that now and then passed overhead; but we swept a spot bare in the orchard, to amuse them with the idea of grass, threw down a few Savoy cabbages, gave them a little extra corn, and though they would fly over the house to get at a spring where the water was still unfrozen, they showed no wish to seek their fortunes elsewhere, or desert their old companion, a China Goose, who could only proceed on foot to take her draught at the brook.

We have now had them more than three years. In the spring of 1846 the Goose laid some eggs in an exposed spot, and dropped one or two others here and there, which were added to them, and she then sat as well as Goose could sit. But owing to the persecutions of an ill-natured Canada Gander, whose delight it was to drive her from her nest, and waylay and beat her as she was returning to it from grazing, the eggs were all addled, and the poor bird, for some time afterwards, showed her dejection and disappointment. Her mate did what he could to protect her from the assaults of her enemy, but his inferior size and strength rendered him powerless. She did not produce a second laying, as is the case with many birds under similar circumstances. In the meanwhile, the truculent Canadian had been banished, and in the spring of 1847 she selected a better place for her nest. She scratched a hollow in the ground, at the edge of a grass walk, under a whitethorn, about eighteen inches above the surface of the water. The eggs were removed as laid, and, when she began sitting, restored to her, with a bunch of straw, which she arranged according to her own pleasure, and with which she could cover her eggs whenever she had occasion to leave them. She began sitting on the 7th of April; on the 7th of May two very pretty Goslings came forth, one of which promised to be white; the next day they were missing, and the rat-catcher explained the cause of their disappearance by extracting an enormous rat from a hole immediately under the nest. The remaining eggs proved unfertile; doubtless from the Gander being permitted to enjoy the society of the above-mentioned China Goose. After the loss of her young, and the abstraction of her worthless eggs, she still persevered in sitting with vain expectation on the empty nest. To prevent this, we filled the hollow with thorns. She then betook herself to watch the success of her rival, the China Goose, who was still sitting. When the little ones came forth from their shelly prison, she assisted in affording them a mother's care, leading them to the

tenderest herbage, brooding them under her wings, and accompanying all their movements with their real parent.

The eggs are smaller than those of the common Goose, pure white, and of a very long oval; whether this is a specific, or only an individual peculiarity, I am unable to say. The shell is also thinner than most other Goose's eggs. The flesh, both of the wild and of the tame bird, excellent. In hard weather, they are frequently to be had at the poulterers' shops, and generally at low prices, in the provinces at least, owing to an unfounded supposition that their flesh would be fishy, as in the sometimes scarcely eatable Brent Goose. But those who are fond of game, will find it, if hung up long enough, a dish for an epicure.

If my own birds are to be taken as specimens, the White-fronted Goose is a pattern of all that is valuable in anserine nature, gentle, affectionate, cheerful, hardy, useful, self-dependent. The Gander is an attentive parent, but not a faithful spouse. Indeed, it is time to contradict what has been published on this latter point, and to caution amateur breeders that Ganders have not the virtues of Scipio. Two treatises, now before me, have the following passage, differing slightly from each other in the wording.

"It has been ascertained, by M. St. Genis, that Geese will pair like Pigeons and Partridges; in the course of his experiments, he remarked, that, if the number of the Ganders exceed that of the Geese by two, and even by three, including the common father, no disturbance nor disputes occur, the pairing taking place without any noise, and no doubt by mutual choice. Besides the common father, he left two of the young Ganders unprovided with female companions; but the couples which had paired, kept constantly together, and the three single Ganders did not, during temporary separations of the males and females, offer to approach the latter."

Acting on this advice, I permitted pairs of four different species of Geese to associate together during the

season of 1846. Three Ganders of the four appeared to think that each Goose, except his own, was at liberty to be unfaithful; and that every Gander, except himself, was wrong in committing an infidelity. What with their jealousies before laying time, and their quarrels after it, with plenty of eggs, we did not get a single Gosling of any sort throughout the whole summer.

THE WIGEON.

"If any one thinks that it is unsuitable for a great and grave man to write about birds and the things pertaining to them, he appears to me to blunder extremely, and, as they say, to have quite lost his road. Illiberal and sordid is the mind of those, who despise those pursuits, and labour at such sciences alone as are profitable to the household merely, and who look everywhere after utility and gain; truly they may be compared to Æsop's cock, who preferred a grain of barley to the jewel he had found, because he was ignorant of the use of the jewel. Since, therefore, according to Aristotle, there is no animal so little, so abject, that we cannot see in it something rare, recondite, even (so to speak) something of the Divinity, so also the knowledge of birds, which are perfect animals, and worthy of admiration, is not to be rejected with contempt, but is to be embraced by every one according to his powers."—Ulyssis Aldrovandi *Præfatio.*

It must already have appeared that the object of these essays is not merely to give some account of such birds as are usually domesticated with us, but also to endeavour to indicate others which there is a reasonable hope of rendering subject to the rule of Man, and available to his use. But it is only after much patience and many trials that we can expect to enslave and attach to ourselves any creatures hitherto wild and unsubdued. Even then failures will occur; but I think there are principles that may guide us in choosing the most likely subjects for our experiments, which the following account of my very limited dealings with the Wigeon may serve to illustrate.

When a species of bird or animal has been for many generations, perhaps for many hundred years, in the neighbourhood, within the view, and under the partial care of Man, and yet cannot be made to lose its innate shyness, and to prefer the plenty and comfort of domes-

tication to a wild and unrestrained mode of life, there is little hope that further attempts on our part will have any effect in bringing such creatures into closer intimacy with us. The Water-hen and the Pheasant are two sufficient instances among birds, the zebra appears to be one among quadrupeds. But if, in an untried race, we find an attached, confiding, and intelligent disposition, hopes of success may then be entertained, in spite of great apparent difficulties. One which would appear to be a bar to all reasonable hope of domestication, is the migratory instinct. But it is not so. The tame Duck is popularly and hitherto undoubtingly believed to be descended from the Mallard, which twice a-year crosses the northern seas. One or two species of Geese have been tempted to prefer the luxuries of home and the friendship of man to their former periodical voyages through the clouds; and there cannot be a more settled quiet creature than the common Goose, which is said, with what probability we shall discuss hereafter, to be the offspring of some one or two of these restless varieties. It is not for want of means of escape that the dove-house Pigeon does not betake itself to its native rocks; for it is said occasionally to come in the morning from the Low Countries to the Norfolk coast to feed on certain crops, and return home in the afternoon; and an excursion across the Wash of Lincolnshire is merely an agreeable trip for exercise. Even the sheep is to this day a migratory animal. "In Spain the number of migratory sheep (Merinos) is calculated at ten millions. Their whole journey is usually more than 400 miles. It is necessary to exert great vigilance over the flocks during the last three or four days, for the animals are eager to start away, and often great numbers of them make their escape."* The sheep of the patriarchs were probably not free from a similar roving disposition. And therefore the circumstance that a bird visits in the Arctic Circle, or now and then performs flights of 2000 or 3000 miles, is less

* Youatt on Sheep, p. 151.

opposed to the possibility of its being domiciled in our court-yards than if it haunted the very shrubbery before our windows, displaying at the same time a certain shyness, flightiness, suspiciousness of temper, well known to the observant naturalist, that coquets with the authority of Man, but will never yield to it. It may be said that such untameables are wise; that if we took them under our protection, it would only be to kill and eat them. But though we may devour the individuals, we multiply and perhaps preserve the species. Were the Turkey as wild and irreclaimable as the Bustard, it would soon be as rare and as likely to be obliterated from the list of existing species. What a pity, then, it is that we cannot, before it be too late, rescue, by domestication, some of those curious Australian birds and animals, whose extinction from the face of the earth Mr. Darwin, we may fear, so truly predicts in his "Voyage of the Beagle round the World."*

The Wigeon is a migratory bird, arriving here in the autumn. A friend, the owner of a decoy, sent me a couple that had just arrived. I cannot call them a pair, because, being taken from a large flock, they might possibly have no more acquaintance with each other than a gentlemen in the pit of the Opera need have with any given lady in the boxes. After peeping into the hamper, we were going to turn them out into an inclosed yard to have a better view of them, when an acquaintance who was present suggested that they were not pinioned. The

* "A few years since this country abounded with wild animals; but now the Emu is banished to a long distance, and the kangaroo is become scarce; to both the English greyhound has been highly destructive. It may be long before these animals are altogether exterminated, but their doom is fixed. The aborigines are always anxious to borrow the dogs from the farm-houses; the use of them, the offal when an animal is killed, and some milk from the cows, are the peace-offerings of the settlers, who push farther and farther towards the interior. The thoughtless aboriginal, blinded by these trifling advantages, is delighted at the approach of the white man, who seems predestined to inherit the country of his children."—*Journal*, second Edition, page 441. See also Dr. Ernest Dieffenbach's *Travels in New Zealand*.

operation was performed. They each uttered a faint cry, looking at us imploringly with their large, clear, intelligent eyes. This was no hospitable reception. They were then put under a hen-coop on the lawn, within two or three yards of the living-room window, and supplied with corn and water. We were constantly looking at them, and shifting their coop to a fresh patch of grass. They did not then allow us to see them eat, but there is no doubt that in the night they made up for the partial abstinence of the day. After a week's confinement in this way, I thought it time to give them greater freedom, by inclosing a small square with wicker hurdles on an island that I wished to become their future haunt, and by removing them there. In a day or two the female had disappeared; but how? Some railway navies at work close by were at first suspected; quite unjustly, I believe; but the hen Wigeon was never after seen or heard of. A few of the web-footed birds have the faculty of climbing up perpendicular surfaces, which would hardly be expected from their conformation, and it is most likely that the escape was thus effected. The horizontal twigs composing the hurdles would easily be laid hold of by her claws and bill. A fence of reeds placed uprightly confines water birds much more securely. Mr. Swainson quotes a feat of climbing performed by the Gargeney Duck, and Audubon relates the following still more curious instance.

"A dozen or more (young Wood Ducks) were placed in empty flour barrels, and covered over for some hours, with a view of taming them the sooner. Several of these barrels were placed in the yard, but whenever I went and raised their lids, I found all the little ones hooked by their sharp claws to the very edge of their prison, and the instant that room was granted, they would tumble over and run in all directions. I afterwards frequently saw these young birds rise from the bottom to the brim of a cask by moving a few inches at a time up the side, and fixing foot after foot by means of their diminutive hooked claws, which, in passing over my hand, I found to have

points almost as fine as those of a needle."—*Ornithological Biography*, vol. iii., p. 56.

The hen having thus scansorially evaded, it was cruel and useless (for breeding purposes) to retain the male bird in solitary confinement. He was, therefore, set at complete liberty; but instead of following the example of his companion—I cannot call her his mate—he appeared determined to make himself comfortable where he was, taking his corn with the Ducks, grazing fearlessly at short distances from the house, and courting quite as much as withdrawing from our notice. His favourite position during the day, when he seemed fond of dozing and sunning himself after he had had his fill of grass, was to bask on the turf before the dining-room window, close by the spot where he had been originally placed in the hen-coop. As the spring advanced he became uneasy, but by no means wild, whistling for a companion, without finding one to answer his call. In April or May he departed, a brook close at hand enabling him to do so. I fear that in his mutilated state the vain search for a partner ended only in capture or death.

From what I saw of these birds I must believe the Wigeon to be domesticable. The experience of other amateurs is concurrent. "The Wigeons that I turned out some weeks ago have made their reappearance; but it is only in the evening, and in the morning early, that they are to be seen."—*H. O. N.*

A fairer experiment would be, if possible, to procure birds bred in captivity, to keep them in a confined space (grass is necessary to their welfare) feeding them highly, and giving them officious attention for two or three generations. Unfortunately instances of their increasing in captivity have hitherto been rare. Their appearance and manners are extremely pleasing; their flesh is excellent. Although there is little fear of their being at present erased from the catalogue of living creatures, as there is for the Apteryx and the Bustard, there is great probability that they, and all other wild fowl will, before many years, become very much scarcer in England. Railroads, drain-

ing, and increased population, have already done something, and are daily doing more to diminish their numbers.* They will find a refuge in the swamps of the north, but it would be delightful, meanwhile, to provide some of them with a settled home amongst ourselves.

Several cases are known to me in which the domestication of the Wigeon has gone as far as the point here attained, but no further, except that the birds remained permanently contented in complete liberty. Wigeon that are taken prisoners seem to refuse to breed in captivity; but this is no more an argument against their intelligence, than it is against that of the Elephant. The surest way would be to obtain from Norway a young brood that had been hatched under a Hen.

But Mr. C. St. John, in his Tour in Sutherland, lately informs us that, "A great many Wigeon breed about Loch Naver. I saw several drakes sitting on the grassy points running out into the lake, shining brightly in their beautiful and variegated summer dress. I also came upon an old duck-wigeon, who kept fluttering round my feet. On looking closely I found about seven young wigeon, two or three days old, very like wild ducks of the same age, but having, instead of the green colour of the young mallard, a kind of reddish brown tinge over the whole of their down. They soon scuttled away into the lake, and we presently saw them swimming far out with the old bird."—Vol. i., p. 61.

Still more recently, Mr. Baily, of Mount Street, says, "I have known many instances of Wigeon breeding. I have now by me a brood of three pairs, this year's birds. I had a brood, bred by the same gentleman last year; and it may be encouraging to amateurs to know that I have for some years past bought the duplicates of a collection every year, and always bred in confinement, comprising the following birds:—Summer Duck, Teal, Garganey, Shoveller, Gadwall, Wigeon, Dunbird or Pochard, and Tufted Duck."

* "The *jelous* swan, ayenst his deth that singeth."
Chaucer's Assemble of Foules.

THE TEAL AND ITS KIND.

"I cannot refrain, in this place, from calling the attention, not only of the naturalist, but of the most inexperienced amateur, to this simple yet interesting specimen of ornithological biography (of the Gargeney Duck). It is replete with facts which indicate the true nature of the bird; and of the circumstances by which its affinities, in a great measure, are to be decided. What a fund of valuable information would a collection of such anecdotes contain, if every one, who kept living birds in their possession, would note their manners in the same way, and in the same simplicity of style; and how much might thus be done, more especially by persons abroad, to inform us of the habits of exotic species, of which we as yet know absolutely nothing!"—SWAINSON.

THESE pretty but provoking little birds, the smallest of our Ducks, are to be seen in almost every collection of water-fowl where there are means of complete inclosure. Their movements are brisk and lively. The winter plumage of the male is well-contrasted, and cannot be closely inspected without admiration; the female, like most other Ducks, is what is called extremely neat; but there is little in their manner or disposition to afford much interest in observing them. In this respect the contrast is great between them and the intelligent Wigeon; for they are silly, unattachable things, squatting on the ground for supposed concealment under the very eye of the visitor, with the same foolish attempt at cunning which would make an Ostrich hide its head behind a tree or in a tuft of grass, thinking thereby to conceal its whole body. On a large expanse of water they are too small to be of any visible use as ornaments, except in the shape of mere dots. Their escape, moreover, cannot be prevented by mere pinioning alone;

they will crawl along drains, wriggle their little bodies through any accidental hole, and must be confined where they are wanted to remain by upright iron railing, a fence of reeds set perpendicularly, or something of the kind, carefully fixed. Wire netting will not do, particularly if it be intended to associate the Carolina Duck, or other similar birds, with them, for the reason mentioned when speaking of the Wigeon, namely, that these latter certainly will climb over it as easily as a lamplighter runs up his ladder. The railing should also be made rat-proof, according to the very ingenious pattern which may be seen at the gardens of the London Zoological Society. Thus protected and restrained they will thrive and breed in a very limited compass. The merest thread of running water will be sufficient to supply a miniature pond for them, which, with the addition of tasteful breeding-boxes, low shrubs, a little rock-work, a few shells, some water-plants, and half-a-dozen gold fish, would serve to make an elegant toy in a lady's flower-garden. Part at least of the bank of the pond should slope gently into the water, to serve as a landing-place, and to afford an easy exit and entrance to the Teal and their young. The bottom should be partly gravel or sand, partly small shingle, and partly mud. Very pleasing designs for these inclosures, of tried practical utility, are to be seen in the various receptacles for water-fowl in and about London. The little isolated nesting-places, fixed on a stake in the middle of the pond, at a level with its surface, are safe from most vermin except rats and stoats (which will readily take the water in search of a dinner), and seem to please the birds, and to make them comfortably at home. The style of the fittings admits of endless variation, according to the taste of the owner. In such a home they will breed freely; but the little ones, as soon as their wings are long enough, will be off, like a swarm of flies, and never be seen more; so that a person may rear them year after year without being at all the better for them, unless a timely check is placed upon their

flight by the keeper's amputating knife. It is a pity not to secure all home-hatched birds, as they may perhaps turn out somewhat less intractable than their parents; and the loss of them as a savoury morsel is something; no Duck can compare with them in flavour, and their price in the market is always high in reference to their size and weight.

Mr. Yarrell says, "in confinement they require grain," which, with the vessel containing it, should be submerged about an inch under water; the corn will thus be steeped and macerated, and at the same time secured from thievish mice and sparrows.

Soft food, such as barley-meal mixed with water, sopped bread, &c., suits them better. When they have young, a little fine pollard or coarse flour scattered on the surface of the water and suffered to spread itself, will be found a convenient and natural mode of feeding them. They will skim it off with their little bills, and suck it down with great delight. The smaller sorts of grain, such as millet and canary seed make a suitable though expensive variation of their diet. A few small fry and minute fish, as minnows, loaches, and sticklebacks, introduced into their pond, would afford them the amusement of catching them, and would not come amiss when caught. If there is not mud enough in the edges of their pond to afford them a supply of minute insects and larvæ, some finely-chopped meat or small earth-worms may occasionally be thrown down to them. I have found a loaf of barley-bread a very convenient thing to have in hand for feeding various birds. It may either be given dry in small lumps, or soaked in water, and is nutritious in either state.

Exactly the same domicile and management will suit many other congeneric birds—the Summer Teal, the Carolina Duck, and the curious and pretty Mandarin Duck, which looks very like a piece of animated chinaware. Of this last there are none now (May, 1848) in the country. But as it is more than possible that the "Gardeners'

Chronicle" and this little volume also may circulate as far as the Celestial Empire, we will warn those who purchase these and similar curiosities to send to their friends at home, against a trick that is now and then played by unprincipled native dealers. The females of the whole Teal family are so much alike in size, colour, and markings, that it requires the eye of an experienced naturalist to identify the different species; and, whether to save trouble, or to prevent us from increasing the stock, the Chinese are said to couple dissimilar birds and sell them as pairs, with little fear of the cheat being discovered.

That most lovely creature, the Wood, Carolina, or Summer Duck, *Anas sponsa*, must also, for the present, be subjected to the same discipline with the Teal. From all that I have seen or heard, on good authority, the hope of their living with us on the same terms as the common Duck must be regarded as visionary. The specimens which are supplied to wealthy purchasers are furnished by importation, not breeding. Numbers die on the voyage from America, or soon after; and, in short, the clearest view of this class of ornamental poultry will be obtained by considering them as aquatic cage birds, and by treating them as such.

The opening paragraph of Audubon's account of the Wood Duck is one of the most beautiful pictures of still life that ever was written. The reader could not fail to be delighted by it. Let him by all means buy the "Ornithological Biography," or hire it: for I cannot rob any preceding author by stealing his "beauties," and sacking the valuables he has acquired by his talent and industry. The form and colouring of this bird are both charming in the extreme, and its size renders it a species much adapted to these small inclosures; but the high price they fetch at the dealers is alone sufficient to indicate some insuperable difficulty in rearing them here, or elsewhere, in any country from which they could be easily imported. If their affinity to the Teal family affords a correct clue,

they are foolish, unimpressible, unattachable, and quite incapable of complete domestication, in spite of Audubon's hope to the contrary. Experience does not allow us to encourage any such hope. Those he had obtained young "grew up apace, when I pinioned them all" (a precaution which does not show much confidence in their domesticability), "and they subsequently bred in my grounds in boxes which I had placed conveniently over the water;" and so, as we have seen, will Teal, and be off, never to return, the moment their wings are long and strong enough to carry them. "I feel well assured that, with a few years of care, the Wood Duck might be perfectly domesticated, when it could not fail to be as valuable as it is beautiful." True, as to the latter half of the sentence; for in America, where alone ordinary folks can afford to eat them, the flesh is said to be excellent—first-rate, indeed. "But," it is added, "the young birds which I raised never failed to make directly for the Ohio, whenever they escaped from the grounds, although they had never been there before," a trait quite enough to mark their flighty character, without another single circumstance being added. In Dr. Buckland's valuable "Reliquiæ Diluvianæ," this bird is, by a misprint, called Anas *sponsor* instead of *sponsa;* but the difference is surely great between a bride and a godfather.

Persons of wealth, with a permanent tenure of their residence, will sometimes choose to inclose their whole pleasure-ground and shrubbery with an adequate iron fence, or a wall. A fountain discharging itself into a basin on a level with the ground is all that is further requisite for forming a collection of the smaller Ducks in such a situation. The great objection to this arrangement is, that it will be almost impossible to exclude rats, which will prey upon the eggs and young, and harass the old birds, if they do not now and then destroy one or two. Incessant hostilities against these pests, and the maintenance of a good out-door she cat, with her family, will keep the nuisance in check. Regular hours of feeding

will invite the birds to the fountain ; and if the varieties are at all numerous, few sights are more beautiful than such an assembly after they have renewed their plumage, and while their wedding dresses are fresh and brilliant. They may justly rank among the most gaudy and sparkling objects in Nature, with the advantage of brisk and lively animation. Diving, splashing, wheeling about, disappearing, emerging, some with pendent crests, others with glancing eyes, all reflecting a thousand changeful hues in the rays of the wintry or the vernal sun, they afford a spectacle which is outrivalled only in magnitude by the most fashionable ball-room in Europe.

It is on this principle of general, instead of particular inclosure, that the aquatic birds in St. James's Park are brought to such a wonderful degree of familiarity and apparent domestication. Nothing astonishes a country visitor more than to see the almost indiscriminate tameness of the specimens congregated there. But the pinioning knife has not been idle; even the webbed feet of some have been curtailed of their propulsive powers ; and the roar and traffic of the vast Babel around them, keeps them to their islets, smoke-dried though they be, more effectually than the most impervious fence that was ever yet contrived.

THE WHITE CHINA GOOSE.

Euelpides. "Great Hercules! Why, what a monster 's here,
What plumage! what a triple tire of cresting!"
ARISTOPHANES. (*The Birds.*)
CAREY'S *Translation*, Act I., Scene iii.

"EVERY like is not the same," is a principle that is beginning more and more to influence the reasonings of zoologists, and to affect their conclusions with respect to *wild* animals. The important deductions derived from minute differences, in creatures that are almost in juxtaposition together, both systematically and locally, may be seen in the late "Voyage of the Beagle round the World," and in the "Quarterly Review" on "Broderip's Zoological Recreations" (March, 1848). But with Domesticated Animals a diametrically opposite axiom would seem to hold; they are described and catalogued apparently on the rule that "Things may be unlike, and yet the same." The many different kinds of Fowl are supposed to be varieties—by which, I presume, is meant transmutable, or at least transmuted forms—of one or, at most, two or three wild originals; and the history of the Domestic Goose is quietly settled by considering it as the result of a fusion of three or four different species melted and mixed into one. Believe it!—those who think that the Bernicle Goose originates from a worm engendered in the sea from rotten wood—not I. Perhaps these Essays may cause the real truth to be more closely investigated.

If, within the last half-dozen years, three different sorts (I abstain from using a stricter word) of China Geese, identical with those with which we are acquainted,

had been discovered in three adjacent islands of the Indian Archipelago, they would probably have been formed into a separate genus, say Cygnöides, or better, Œderamphus, of which the species might be, first, *albus*, or *galeatissimus*, as typical; the next *rufipes*, and the third, perhaps, *bœticus*, retaining, though in a different sense, one of its trivial names. We should have as a generic character, "forehead surmounted with a large knob, partly fleshy and partly osseous, increasing with age; beak powerful, highly ridged, adapted to the digging up and division of roots and tubers, to which purpose it is often applied;"—they make short work with a potato —"habits, more terrestrial than aquatic; attitudes, in the water graceful and swanlike, on land constrained and usually erect; voice, harsh and loud; powers of flight very limited and weak," and so on; then would follow the specific distinctions.

Now, we will further suppose that a stock of each of these species was either brought to England, or retained in domestication on the neighbouring Asiatic continent, or both; that the islands became thickly peopled, or repeatedly visited by mariners armed with fowling-pieces, and anxious for fresh meat, and also for sport. The birds cannot escape by flight, nor by running away; they can neither swim so swiftly nor dive so far as to baffle a boat and a crew of stout rowers; they make no attempt to conceal themselves, as a common Hen will if she be hunted in a shrubbery; their loud cries betray them when unseen; and, consequently, *in their native home*, they undergo the fate of the Dodo: they are exterminated. But their aptitude for domestication has preserved the *race:* they survive in our poultry yards, artificial lakes, and Zoological Gardens,* and, after a while, they are styled

* "The forethought and industry of Man assists in the preservation and safety of not a few animals, and those things which the earth produces. For there are many, both of beasts and plants, that could not continue in existence, if deprived of the protection of Man."—Cicero, *De Naturâ Deorum* II.

varieties of, nobody indeed knows what. If they had refused to propagate in captivity, they would have become extinct, like the Uri of the Hercynian forest.*

Is this an impossible or even an unlikely case? Where are we now to find a wild Cereopsis? Where will our great-grandchildren be able to find a Wild Turkey a hundred years hence?

But before finally determining to fix the appellation of species, or variety, to any particular race of animals, it will be necessary first to settle the question of what is meant by the terms Genus, Species, and Variety. They are all understood to denote certain degrees of difference, that are made use of to assist in classification; but the precise lines of demarcation of each are extremely difficult to define. It is generally assumed that individuals of different genera will refuse to breed together; that the mules between different species are sterile; and that varieties are merely accidental and recent examples of a slight alteration in the external character of species, which do not affect their continuance as a race, and, perhaps, disappear altogether after a time. But in opposition to this, hybrids have been produced between the Egyptian Goose and the Penguin Duck, also between the common Fowl and the Guinea-fowl; prolific mules are constantly occurring between all sorts of species of Geese; and it is well and practically known, that though varieties breed freely with each other, nothing is so difficult as to establish a cross that shall be a perfect amalgamation of two distinct varieties. Even individual peculiarities are reproduced in the course of generations.

In truth, species and varieties differ only in degree. If we admit that the latter are merely recent changes of organisation, we cannot refuse to allow that the former are so likewise; and thence proceeding backwards, we must apply the same view to Genera and Classes, till we

* "But not even when taken very small can the Uri be reconciled to the presence of man, and become tame."—Cæsar *de Bello Gallico*, lib ii. cap. 28.

arrive at last at the theory of the development of all animated beings from Monads, as advocated by Lamarck, and more recently by the author of the "Vestiges of Creation." This is one mode of explaining the diversity of Nature; the other is by supposing that animals were originally created as we now see them, and that any apparent gaps in the chain or network are caused by the extinction of certain races, not by the uprising of new forms into existence, since the Creation of Man, at least. Now we have indisputable proof of the extinction of very many Genera and Species of innumerable Pre-Adamite animals (and the reader is particularly requested to observe that we have now existing amongst us many Pre-Adamite animals,*—the Common Badger, for instance, of older pedigree than all the Howards multiplied a thousand fold —and I feel convinced many equally ancient birds also); and we have, besides, records of modern exterminations

* Remains of the Aurochs (a species which still survives by virtue of strict protective laws, in extensive forests, which form part of the Russian empire), are found in the superficial deposits of various parts of Europe, some of which carry the antiquity of the Aurochs as far back as the extinct Pachyderms of the newer pliocene deposits.

"That the present European Beaver is not the degenerate descendant of the great Trogontherium, is proved, not only by the differences in the dental structure, pointed out in the preceding section, but likewise by the fact that Beavers, in no respect differing in size or anatomical character from the *Castor Europæus* of the present day, co-existed with the *Trogontherium*. Remains of the Beaver have been thus discovered by Mr. Green in the same fossilised condition, and under circumstances indicative of equal antiquity with the extinct Mammoth, in the lacustrine formation at Bacton.

"A fossil skull of a Badger in the Museum of the Philosophical Institution at York, would seem to carry the antiquity of the *Meles taxus* to a higher point than the Cave epoch, and as far back as any species of the Ursine genus has been traced. Should this specimen prove authentic, the *Meles taxus* is the oldest known species of Mammal now living on the face of the earth.

"My friend, Mr. Bell, has pleaded the cause of the poor persecuted Badger, on the ground of its harmless nature and innocuous habits; the genuine sportsman will, doubtless, receive favourably the additional claim to his forbearance and protection, which the Badger derives from his ancient descent."—Owen's *British Fossil Mammals,passim.*

successively going on, from the Christian æra to the present day. No undisputed record, however, is to be found of the sudden emergence into life of a new tribe of creatures. Foreign introductions there have been, but nothing more, that there is any affirmative evidence to prove. I am conscious that I may be contradicted by such examples as the New Leicester Sheep, and the very remarkable Rabbits that are now kept in a state of domestication; but Mr. Bakewell is asserted to have studiously concealed and destroyed every trace of the means by which he established his breed, and the secrets of the Rabbit Fancy are as likely to be made available to the elucidation of natural history as are the Eleusinian Mysteries. But so long as our commercial relations continue as widely extended as they are at present, the sudden and unexplained appearance of any living novelty in England, is by no means of necessity its first appearance on any stage. It may be as old as the hills—some of them; older than the English Channel, and have neither made a sudden drop from the clouds in these latter days, nor have been recently compounded, like Frankenstein's monster, from the members of defunct creatures, nor yet electrified into life in a pickle jar, like Mr. Cross's mites. Milton's noble lines are no longer applicable :—

"Meanwhile, the tepid caves, and fens, and shores,
Bursting with kindly rupture, forth disclosed
Their callow young; but feathered soon and fledge,
They summed their pens; and, soaring the air sublime,
With clang despised the ground. * * And straight the earth,
Opening her fertile womb, teemed at a birth
Numerous living creatures, perfect forms
Limbed and full-grown; out of the ground up rose,
As from his lair, the wild beast where he wons
In forest wild, in thicket, brake, or den."

If such views be correct, it will follow that those who are searching for the wild originals of many of our domestic animals, are altogether pursuing a wrong scent. They might just as well search for the wild original of the

Mammoth or the Dodo. It is an assumption, unsupported by any proof, to fix upon the wild creature that nearest resembles any given tame one, and to say, "Here is the wild original; the differences which we see have been produced by time and domestication;" or, if there is nothing wild coming within a moderate approach to it, to say, as of the Common Goose, "It is a combination of three or four other species." This is surely not philosophical reasoning; it is a begging of the question which would not be admitted in the exact sciences. What a daring leap at a conclusion it is, to get from the Asiatic Argali, the American Argali, or the Corsican Mouflon, any or all of them, to the Sheep at a single vault! Such ratiocination is like the knight's move on the chess-board, hither and thither, but never straight forward. Nor has the wide gulf between Cocks and Hens and the Jungle Fowl been as yet bridged over by any isthmus to me visible. But what may be said on this latter subject is, for the present, reserved. The principle here sought to be indicated as a guide for future research, is, that existing varieties and species which cannot be *exactly* identified in a wild state, are, in all probability, the remains of extinct races, the fragments of a ruin, not newly-raised "seedlings," modern sports and freaks of Nature. Man, as he extends his dominion over earth and ocean, is generally a Destroyer, occasionally an Enslaver, and so far a Protector, hence sometimes even a Selecter and Improver, but never a Creator.

And now to the white China Geese, about whose lineage the reader, we hope, is by this time interested.

My attention was first directed to these singular birds by Mr. Alfred Whitaker, of Beckington, Somerset. "I wish you could have seen the white variety or species, as it is so far superior in every respect to the brown. The period of incubation of the white China Goose was not more than thirty days, *i. e.* not longer than that of the common Duck. The white China Goose is of a spotless pure white"—a very few grey feathers have since appeared

—" more Swan-like than the brown variety, with a bright orange-coloured bill, and a large orange-coloured knob at its base. It is a particularly beautiful bird, either in or out of the water, its neck being long, slender, and gracefully arched when swimming. It breeds three or four times in the season, but I was not successful with them, owing, as I fancied, to my having no water for them, except a rapid running stream. A quiet lake I believe to be more to their taste, and more conducive to the fecundity of the eggs. I believe my birds are still in the neighbourhood, as I lent them to a farmer to try his luck with them. The egg is quite small for the size of the bird, being not more than half the size of that of the common Goose. This bird deserves to rank in the first class of ornamental poultry, and would be very prolific under favourable circumstances. You will see both varieties of brown and white China Geese on the water in St. James's Park. My Geese were from imported parents, and were hatched on board ship from China."

On visiting town in May, 1848, my efforts to get a sight of any white China Geese were unavailing. There were none left in St. James's Park; there were not any in the Surrey Gardens, choice as that collection is; nor were any visible at the principal places where poultry is offered for sale. The Zoological Society had parted from their specimens in consequence of being overstocked with other things. Their head keeper seemed only to consider them in the light of a *variety* of the Cygnoides, but he spoke most decidedly of his experience of the permanence, not only of this variety, but also of that of the dark-legged, and the red-legged sorts of the brown kind, thus indicating three races, which, I repeat, would be considered as species were they now discovered for the first time, on three islands even of the same group.

From this difficulty I was most kindly relieved by receiving a pair of white China Geese through Mr. Whitaker's means. They are larger than the brown China Geese, apparently more terrestrial in their habits;

the knob on the head is not only of greater proportions, but of a different shape. If they were only what is commonly meant by a variety of the dark sort, it is a question whether the bill would not retain its original jetty black, whatever change occurred to the feet and legs, instead of assuming a brilliant orange hue. If the bird were an Albino, the bill would be flesh-coloured, and the eyes would be pink, not blue.

Mr. Knight, of Frome, in whose possession they had been for three years, states that he has been unable to obtain any young from the eggs of the Goose, but if he supplies her with eggs of the common Goose, she invariably hatches and rears the goslings. Separate trials of each of the pair with the common Goose and Gander have been made by him unsuccessfully, although the white China Goose lays four times in the year. Another gentleman (N. B.) who also had a pair of the same lot, from China, says, "I had one good brood from the young pair which I kept, but since that they have bred so badly that I have parted with the females and kept a male bird, and now get very good broods. My friends, to whom I have given young birds from my pair, also complain. The Geese sit remarkably well, never showing themselves out of the nest by day, but whether they may leave the nests too long in the cold of the night, I cannot tell. The time of incubation I consider to be about four weeks and three days. The young birds of the crossed breed in appearance follow the mother, the common English Goose, but they do remarkably well; and we have now (July 4) killed two really good and sufficiently fat birds, which were hatched only on the 29th of March last."

I find no mention of the White China Goose in any of the older ornithologists to whom I have had access. Willughby gives separate descriptions of the dark kinds, but elsewhere seems doubtful whether he has not described the same thing under different names. Indeed, in his plates he has confounded the Guinea Goose with the

Canada Goose. Some writers speak of a variety with a pouch, or, according to others, lappets under the chin. What comes nearest to a pouch is a doubling of the skin beneath the lower mandible in certain specimens. One cause of the difficulty of recognising the China Goose from descriptions and synonyms seems to have arisen from the general similarity, yet fixed though slight distinctive marks, of the two or three dark varieties.

THE TAME DUCK.

"It would be curious to know when this species was first domesticated; but, Reader, the solution of such a question is a task on which I shall not venture. In the domestic state everybody knows the Mallard. When young it affords excellent food, and when old lays eggs. A bed made of its feathers is far preferable to the damp earth of the camp of an American woodsman, or the plank on which the trained soldier lays his wearied limbs at night. You may find many other particulars, if you consult in chronological order all the compilers from Aldrovandus to the present day."—AUDUBON.

NOT so many particulars as we might fairly expect, are to be found ready compiled respecting the Duck. One leading opinion seems to run throughout them all, that our farm-yard Ducks are nothing more than the tamed descendants of old English Mallards. It is a pity to disturb so plausible and general a belief; but an attempt to approximate to the solution of Audubon's problem, "*when* this species was first domesticated," has raised some doubts upon the subject which it is of no use to suppress.

One thing, I think, may be demonstrated, *i. e.* that the date of its first appearance in domestication on the European continent is not very remote, however high may be its antiquity in India and China. In pursuing these sort of inquiries, which are daily becoming more interesting and more important in their conclusions, one regrets that untranslated works on natural history or farming (if such there be) in the Oriental languages, are sealed records to almost every one who has the leisure to make use of their contents. It is extremely probable

that great light might be thrown on the origin and history of our domesticated animals by a careful inspection of such works. As it is, we are left to obtain our evidence from imperfect and (with the exception of geology) more recent traces.

If the Swan and the Pelican were forbidden to the Israelites, and their carcases to be held in abomination (see Leviticus xi. 18), the Duck would probably be included in the list of unclean birds; or, rather, we may without violence suppose that the Hebrew words translated "Swan" and "Pelican," are used generically for all web-footed fowl. But, as Scott says, "here the criticks find abundance of work."

I think it may be shown from negative evidence that the Romans at the time of our Saviour, and subsequently, were not acquainted with the domesticated Duck. I can find no passage plainly declaring that they were, but many implying that they were not.

Columella, after having given directions for the rearing of Geese, which, with one or two laughable exceptions, are more sensible and practical than are to be found in modern works, proceeds to offer instructions for making the *Nessotrophion*, or Duckery. He speaks of it as a matter of curiosity rather than profit; "for Ducks, Teal, Mallard, Phalerids, and such like birds are fed in confinement." Then it is to be surrounded with a wall fifteen feet high, and roofed with netting, "that the domestic birds may have *no power of flying out*, nor Eagles and Hawks of flying in." His mode of increasing his stock shows that Ducks had not at that time become naturalised and prolific inmates of the Roman poultry-yards. "When any one is desirous of establishing a Duckery, it is a very old mode to collect the eggs of the above-mentioned birds (such as Teal, Mallard, &c.), and to place them under common Hens. For the young thus hatched and reared, cast off their wild tempers, and undoubtedly breed when confined in menageries. For if it is your plan to place fresh-caught birds that are accustomed to a free

mode of life in captivity, they will be but slow breeders in a state of bondage."—Lib. viii. cap. 15.

Cicero also speaks of hatching Ducks' eggs under Hens (De Naturâ Deorum II.); but there is nothing in the passage from which to infer that those Ducks were domesticated, but rather the contrary; as he remarks how soon they abandon their foster-mother and shift for themselves.

Pliny describes the flight of Ducks, as rising immediately from the water into the higher regions of the atmosphere (lib. x. 54), exactly as we see a wild Duck rise now; a performance that would make our Duck-keepers uneasy. The very little mention that he makes of Ducks at all, shows that he did not habitually see them in domestication.

From what Ælian says about Ducks we may conclude that he also was acquainted with them in the wild state only. His positive evidence would not be worth much, if the translator of Rabelais was justified in characterising the "Varia Historia" as the production of "Ælian, that long-bow man, who lies as fast as a dog can trot;" but his negative testimony may prove something. In Book v. 33, he describes how the ducklings, unable to fly, and to escape by land, avoid the attacks of Eagles by diving. Tame Ducks would hardly be in much danger from Eagles, whatever mishaps wild ones might be liable to; although, from the frequent mention of these plunderers in classic authors, there certainly is reason to believe that they were much more abundant, while the great part of Europe remained uncivilised, than they are now. And in Book vii. 7, after having given the signs of the weather denoted by *wild* birds, in which he includes Ducks and Divers, he proceeds to mention those afforded by Cocks and Hens and other domestic birds.

Supposing it, however, to be proved that the Tame Duck is a comparative novelty in the West, it by no means follows that it is so on the Asiatic Continent and

Islands, nor, as a corollary, that it is a tamed descendant of *our* Mallard. If the skeletons of one and the other were placed side by side, it would require, not a skilful comparative anatomist, but only an observant sportsman, or even an ordinary cook, to point out which was which.* Nor has sufficient weight been attached to the circumstance of one bird being polygamous, and the other monogamous. When we come to speak of the Domestic Goose, it will be seen how little such a difference is likely to be the result of domestication. Let us not forget too that the domestication of wild races is an art that demands quiet, peace, patience, and superabundance, not merely for its successful issue, but for its being exercised at all, and was little likely to be much practised by any European nation, in the interval between the fall of the Roman Empire and the present day, with a creature that required a course of generations to reclaim it. I am inclined, therefore, to consider our race of farmyard Ducks as an importation, through whatever channel, from the East, and to point out the discovery of the passage of the Cape of Good Hope (1493) as the approximate date. The early voyagers speak of finding them in the East Indies exactly similar to ours; and the transmission of a few pairs would be a much easier task than to subdue the shyness and wildness of the Mallard, and *induce an alteration in its bony structure*. The admirable reasoning of Professor Owen respecting our present domestic Oxen, is, to my mind, perfectly applicable to the Tame Duck.

"My esteemed friend Professor Bell, who has written the 'History of Existing British Quadrupeds,' is disposed to believe, with Cuvier and most other naturalists, that our domestic cattle are the degenerate descendants of the great Urus. But it seems to me more probable that the herds of the newly-conquered regions would be derived

* "You need not be at a loss to know a *wild* duck. The *claws* in the *wild* species are *black*."—COL. HAWKER.

from the already domesticated cattle of the Roman colonists, of those 'boves nostri,' for example, by comparison with which Cæsar endeavoured to convey to his countrymen an idea of the stupendous and formidable *Uri* of the Hercynian forests.

"The taming of such a species would be a much more difficult and less certain mode of supplying the exigencies of the agriculturist, than the importation of the breeds of oxen already domesticated and in use by the founders of the new colonies. And, that the latter was the chief, if not sole, source of the herds of England, when its soil began to be cultivated under the Roman sway, is strongly indicated by the analogy of modern colonies. The domestic cattle, for example, of the Anglo-Americans have not been derived from tamed descendants of the original wild cattle of North America: there, on the contrary, the Bison is fast disappearing before the advance of the agricultural settlers, just as the Aurochs, and its contemporary the Urus, have given way before a similar progress in Europe. With regard to the great Urus, I believe that this progress has caused its utter extirpation, and that our knowledge of it is now limited to deductions from its fossil or semi-fossil remains."—OWEN's *British Fossil Mammals*, p. 500.

In like manner the Mallard, though not gone, is fast diminishing as a *permanent* inhabitant of England: the tame Duck, so much larger and heavier, if its descendant, can hardly be called a degenerate one. The Mallard is very widely diffused over the continental part both of the Old and the New World, and therefore its supposed adaptation to domestic life is as likely to have occurred in Asia as in Europe. Its dislike to salt water has made it less cosmopolitan among the islands. Dampier, in his Voyages, repeatedly mentions that in the East Indies "the tame Fowls are Ducks and Dunghill Fowls, both in great plenty;" he does not describe the Ducks, except as "the same with ours." He was doubtless correct in believing them to be the same; although we know that

the old travellers, and many of the modern emigrants, are not very precise in their zoology, and indeed might sometimes be excusably puzzled. For instance, when Captain Wallis, soon after he had discovered Otaheite, saw animals lying on the shore with their fore feet growing behind their heads, rising every now and then, and running a little way in an erect posture, he might naturally be moved with curiosity to inspect them more closely: he afterwards found that they were dogs with their fore legs tied behind them, brought down by the natives as a peace-offering and a festival dish.

I know of no instance in which any one has finally succeeded in founding a permanent tame farm-yard race of Ducks, by breeding from the Mallard, though the attempts have been numberless, and a few parties have been on the very brink of success. Crosses between the Wild and Tame breeds have answered better; but the progeny have retained their full share of independent temper and movements.

One of the most valid arguments in favour of the derivation of the Tame Duck from the Mallard, is to be found in the readiness with which the former returns to a wild or a half-wild state. In Norfolk there is a breed called "Marsh Ducks," more from their habits and place of birth than from any peculiarity of race. They are mostly of plumage generally similar to the Mallard, though an ornithologist would immediately distinguish them; their size and the fineness of their bones are intermediate between the wild bird and the common farm-yard Duck. They are turned out on the marshes to forage for themselves: indeed it would be next to impossible to keep them at home; and of the number which are annually lost to their masters, it would seem likely, at first sight, that quite as many assume an independent condition, as are killed by birds, beasts, or men, of prey; but I doubt the fact, and they do not appear to be ever found actually and entirely wild. They are frequently sent to market towards the close of summer, without being shut up

at all to fatten, and afford a cheap and relishing addition to the table.

Similar instances on a smaller scale are frequent. "A farmer in our neighbourhood (Wiltshire) has a Duck, of the common black and white sort, that every year takes it into her head to abscond to the river, where she lays her eggs. She does not, however, I believe, pair with any Wild Drake, but remains the whole summer in a wild state with her young ones, and then quietly returns to the yard in autumn. When I have been taking a walk sometimes about four in the morning, I have frequently seen her on the Down, about a hundred yards from the water. On being alarmed they would all run and dart into the water with great rapidity: and this plan the old lady has acted on for several years, escaping unscathed by guns and dogs."—*H. H.*

There are several varieties of Tame Ducks, but their merits are more diverse in an ornamental than in a profitable point of view, and will be estimated very much according to the taste of individual fanciers. Those who merely want a good supply for the table, cannot do better than just to adopt the sort most common in their own vicinity. No country place should be without some, especially in low situations. A Drake and two or three Ducks will cost little to maintain, and will do incalculable and unknown service by the destruction of slugs, snails, worms, and the larvæ of gnats, and other annoying insects. The only trouble they will give, is, that if there be much extent of water or shrubbery about their home, they will lay and sit abroad, unless the poultry-maid or the boy gets them up every night, which should be done. Otherwise, they will drop their eggs carelessly here and there, or incubate in places where their eggs will be sucked by carrion-crows, and half their progeny destroyed by rats. In the neighbourhood of large pieces of water, or wide spreading marshes, this will be either impossible, or attended with more waste of time than the Ducks are worth. In which case, and indeed in all cases with

Ducks, I believe the slave-owner's maxim to be correct, that it is cheaper to buy than to breed. The smaller they are bought in, the more good service they will perform in ridding a place of minute crawling and creeping nuisances; and the most profitable management of them is to let them gorge all they can swallow as fast as they can digest it, and to make them fit for table, and for the supply of materials for feather-beds, at the earliest possible moment. The quickest return will be the most remunerative.

As to cooking them, there is only one traditional old English mode. We would gladly transfer, as an illustration to these pages, Leech's admirable "Romance of Roast Ducks," from "Punch," June 24, 1848, although he ought to have made the accompanying green peas more distinctly visible.

"*Lingo.*—Ah, Cowslip, if you was a goddess! Jove loved an eagle; Mars, a lion; Phœbus, a cock; Venus, a pigeon; Minerva loved an owl.

"*Cowslip.*—I should not have thought of your cock-lions, your owls, and *your pigeons;* if I was a goddess, give me a *Roast Duck.*"

The Agreeable Surprise, Act I.

In the Principality they have a delicate way of serving them boiled, with onion sauce. On attempting to reproduce the dish after a tour in North Wales, the result was utter failure, till the secret was discovered that the Ducks must be salted a couple of days before being boiled. Still more heterodox fashions have been practised in former days.

"The *Pottage of Ducks with Turnips,* is made of Ducks larded, and half fried in Lard, or which have took three or four Turns on the Spit; then they are put in a Pot. The Turnips, after they have been cut in Pieces, and flour'd, are also fried in Lard, till they are very brown; then they are put in the same Pot with the Ducks, and left to boil slowly in Water, till the Ducks are done. Before the Pottage is carried to Table, it may be season'd with a few drops of Verjuice."

" To make a '*Ragout of Ducks*,' they must be larded, fried, very well season'd with Salt, Pepper, Spices, young Onions, and Parsley, and put in a Pot to stew, with a little of our best Broth."

" *Ducks* are roasted with four Roses of Lardons, one on each Wing, and one on each Leg: Some put another on the Stomach."

" To make a *Duck Pye*, the Ducks must be larded, well seasoned, and the Pye baked for the Space of three Hours."—*Dennis de Coetlogon's Universal History*, p. 827, *et seq.*

The reader will take his choice; we only wish him a good appetite and pleasant company; the living birds belong more properly to our department.

Of White Ducks, the best is the Aylesbury, with its unspotted snowy plumage and yellow legs and feet. It is large and excellent for the table, but not larger or better than several others. They are assiduous mothers and nurses, especially after the experience of two or three seasons. A much smaller race of White Ducks is imported from Holland; their chief merit, indicated by the title of Call Duck, consists in their incessant loquacity.* They are useful only to the proprietors of extensive or secluded waters, as enticers of passing wild birds to alight and join their society. But in Norfolk, where the management of Decoys is as well understood as anywhere, the trained Decoy Ducks are selected to resemble

* " The chief point to be attended to in England, is to get, if possible, some young wild Ducks bred up and pinioned. Or, by way of a makeshift, to select tame birds which are the *most clamorous*, even if their colour should not be like the wild ones. But in France you have seldom any trouble to do this, as the Ducks used in that country are partly of the wild breed; and three French Ducks, like three Frenchmen, will make about as much noise as a dozen English. The Italians, in order to make their call-birds noisy, for a 'roccalo,' burn out their eyes with a hot needle, a practice at which I am sure my English readers would shudder; though the translation of what they say in Italy is, that 'these are the happiest birds in the world; always singing.' "—*Colonel Hawker's Instructions*, p. 367.

the Mallard, male and female, as nearly as possible. Both systems are found to answer; the wild-coloured traitors arouse no suspicion, while the conspicuous Dutchmen excite fatal attention and curiosity. When the newly-arrived immigrants, although bent on a pleasure excursion from the north, are listless, or suspicious of their company, and will not enter the Decoy, they may often be made to do so by the sudden display of a red hankerchief, or the rapid appearance and disappearance of a Spaniel. The White Call Duck has a yellow orange bill, that of the Aylesbury should be flesh-coloured.

There is also the White Hook-billed Duck, with a bill monstrously curved downwards, not *upwards*, as some writers have it, but Roman-nosed Ducks in short, with features like Cruikshank's Jews, of a most grotesque and ludicrous appearance. It may be superfluous to remind the reader, that White Ducks make but a sorry figure in towns or dirty suburbs, or any where that the means of washing themselves are scanty. But Hook-billed Ducks are nothing new. Albin, in 1738, published coloured figures of both sexes, which look much as if they had a right to claim the rank of a species. The lines of small white specks on the head, as he describes them, are remarkable. The bill has some resemblance in its curvature to that of the Flamingo. He says, "These Ducks are better layers than any of the other, either wild or tame."

The cottagers living on the northern coast of Norfolk, have one or two varieties that are very pretty, and are not usual,—one of a slate-grey or bluish dun, another of a sandy yellow; there are some also with top-knots * which rival the Hook-billed Duck in oddity.

Of mottled and pied sorts there exist a great variety; black and white, brown and white, lightly speckled, and

* "Some of the tufted tame Ducks, near Salisbury, are very handsome, having crests as compact and spherical as any Polish Fowl; but whether this is, or was, any distinct variety, I will not undertake to say."—*H. H.*

many other mixtures. The Rouen Duck of Poultry-books can hardly be separated from this miscellaneous rabble, and ought to be permitted to return to its original obscurity in the multitude. It is wrong to lead people to pay high prices for them as stock; and we are quite at a loss to discover in them any unusual merit or other describable peculiarity. They appear to be identical with the commonest Ducks which we have everywhere. The "Rouen," likewise "Rhone" Duck, is also written "Rohan." I believe neither term to be correct, in point of fact: that is, not exclusively: i. e. Rouen Ducks are to be found, wherever there are Tame Ducks. The words are similar in sound, but the two first are taken from localities, the last from the name of a distinguished family, one member of which, the Cardinal de Rohan, was strangely implicated in the diamond-necklace affair that caused such distress to Marie Antoinette. But we might just as well call them "London" or "Thames" Ducks, or "Mr. Smith's" Ducks. It would puzzle most people to point out in what they differ from the every-day brown, or brown and white, farm-yard Duck. We should be told they were *finer*, a *better sort*, &c. An inquiry of some of, not all* the Dealers for the authority on which the name was given, would probably be met by silence, or by anger at the public being told that birds, for which *they* charge six, eight, or ten shillings, may be had of any country higgler for 1s. 6d. I am even uncharitable enough to suspect that incorrect names are purposely given to unusual varieties by a few poultry-merchants, in order to conceal the source from whence they were originally derived. My notion that the title Rouen and its aliases is only a trade name, intended to

* I beg to acknowledge the gentlemanly and ready manner in which Mr. John Baily, of Mount Street, Grosvenor Square, has expressed his willingness to impart information on a subject on which he is so well conversant. He is able and trustworthy to execute orders for choice specimens of poultry, and I should certainly apply to him, did I want any select Fowls to be procured.

elevate the common sort into a choice and more marketable variety, is confirmed by the omission of such a designation by Aldrovandi, and later by Buffon; both writers who swept *everything* into their net. Penguin Ducks are nearly as strange as the Hook-billed. Their peculiarity consists in walking uprightly, in feeble imitation of a Penguin. But it is not strikingly apparent when they are in an ordinary frame of mind. A sudden fright makes them raise their heads, as it will many other birds.

A variety not usually met with, but which deserves to be better known, is that advertised by the Messrs. Baker as the Labrador Duck; the Zoological Society have had it under the name of Buenos Ayres Duck, and received it from that place; in the south of England it is known as the Black East Indian Duck. It would be difficult to fix upon three more dissimilar and widely-separated spots on the face of the globe. We may at once discard the claim of Labrador, however rich in wild specimens, to the honour of sending any new tame variety of bird. Believing that our Tame Ducks are all importations from the East, I should give the preference to the Indian title. Nothing is more probable than that the Zoological Society had their birds from the East, *viâ* Buenos Ayres. Whether the stock had been introduced there a month, or twenty years, previously, does not alter the main fact; while ships direct from India would be very likely to land a few pairs at the first Channel port they touched at.

By some country dealers they are styled Beaver Ducks, in allusion, perhaps, to a black beaver hat. These persons esteem them highly, and usually send them to London alive, where, if good specimens, they are eventually disposed of to Amateurs at the rate of eight or ten shillings each.

But from whatever quarter obtained, they are handsome creatures. A little girl, at her first sight of them, could not help exclaiming—"Oh! what beautiful golden-green Ducks!" The feet, legs, and entire plumage, should

be black; a few white feathers will occasionally appear; but I had some birds that were immaculate, and such should be the model of the breeder. The bill also is black, with a slight under-tinge of green. Not only the neck and back, but the larger feathers of the tail and wings are gilt with metallic green; the female also exhibits slight traces of the same decoration. On a sunshiny day of spring, the effect of these glittering Black Ducks sporting on the blue water is very pleasing, especially if in company with a party of the Decoy breed in strictly Mallard plumage.

A peculiarity of these Black East Indian Ducks is, that they occasionally—that is, at the commencement of the season—lay black eggs; the colour of those subsequently laid gradually fades to that of the common kinds. This strange appearance is not caused by any internal stain penetrating the whole thickness of the shell, but by an oily pigment which may be scraped off with the nail. They lay, perhaps, a little later than other Ducks, but are not more difficult to rear. Their voice is said to differ slightly—a fact I have not observed: but they are far superior to others in having a high Wild Duck flavour, and if well kept, are in just repute as being excellent food when killed immediately from the pond, without any fatting. My attention was first called to them by a friend and neighbour, to whom I am indebted not only for the information, but for handsome specimens.

The time of incubation of the Tame Duck is thirty days.* The best mode of rearing them depends very

* Does the Mallard differ in this respect from the Tame Duck? I think not. But, according to Audubon, "at length, in about *three weeks*, the young (of the former) begin to cheep in the shell." Did we not know his usual great accuracy, we should suspect some error, and also be startled at the subjoined statement. "The squatters of the Mississippi raise a considerable number of Mallards, which they catch when quite young, and which, after the first year, are as tame as they can wish. *These birds raise broods which are superior even to those of the old ones, for a year or two, after which they become similar to the ordinary Ducks of the poultry-yard.* The hybrids produced

much upon the situation in which they are hatched.* For the first month, the confinement of their mother under a coop is better than too much liberty. All kinds of sopped food, barley-meal and water mixed thin, worms, &c., suit them. No people are more successful than cottagers, who keep them for the first period of their existence in pens two or three yards square, cramming them night and morning with long dried pellets of flour and water, or egg and flour, till they are judged old enough to be turned out with their mother to forage on the common and the village pond. Persons with extensive occupations, over which the Ducks would stray and be lost, will find it better answer their purpose to buy in their main supply of Ducks half grown, than to rear them, besides having the satisfaction of putting a few shillings into the pockets of their poorer neighbours. A few choice old favourites may still be retained for their services as grub destroyers, for the beauty of their plumage, and for the pleasure of seeing them swim their minuets in the pond, bowing politely to each other—the bows to be returned—before they take their afternoon's doze on the grass, with their sleepy eyelids winking *from below*, and their bills stuck under the feathers of their back, by way of a respirator. The healthy heartiness of their appetite is amusing rather than disgusting. A cunning old Duck, to whom I tossed a trap-killed mouse, tried hard to get it down in the rough state, but finding that impossible, she toddled off with it to the pond, where after a due soaking, the monstrous mouthful easily slipped down. They are cheerful, harmless, goodnatured,

between the Mallard and the Muscovy Duck are of great size, and afford excellent eating. *Some of these half-breeds now and then wander off, become quite wild, and have by some persons been considered as forming a distinct species.* They also breed, when tame, with the Black Duck (*Anas fusca*) and the Gadwal, the latter connection giving rise to a very handsome hybrid, retaining the yellow feet and barred plumage of the one, and the green head of the other parent."

* According to Pallas, in the Crimea, the tame Duck is reared with difficulty.

cleanly creatures. As Audubon says, "They wash themselves, and arrange their dress, before commencing their meal; and in this, other travellers (in America particularly) would do well to imitate them."

In rearing Ducklings it is usual, in the first place, to dip their feet in water as soon as hatched, and then to clip the down on their tails close with a pair of scissors, to prevent their becoming drabbled and water-logged; and before their introduction to the pond, it is thought adviseable by many good housewives, to let them have a private swim or two in a small pan of water, to try their strength and practise their webbed feet before venturing upon a larger space.

A few original notes on the Mallard will not be out of place here, though the facts they record show that the Teal and such like water cage-birds have a truer claim upon them, if disposition and habits are to guide our arrangement.

"I have seen enough of the Mallard of England and his untrustworthy progeny, to make me *doubt* of his being the origin of our Farm Duck. That the Mallard is becoming less frequent every year in our vicinity is true, but we have attributed it chiefly to the exertions of unbidden would-be sportsmen on our river. We still, however, have them in certain places in tolerable abundance. They are fond of frequenting the furze and heath on our downs in spring, and sometimes breed there, but oftener in willow beds and the thick grass in our meadows, whence I have often had eggs brought me, and set under Hens. These generally hatch well, if the Hen's breast be dipped in water a few times during incubation. There is a decided gain as to docility in Ducks hatched in this way, over those caught on the river, even if only a single day old. Young Wild Ducks are certainly some of the most cunning and slippery little creatures extant, and the best way is to commence handling them as soon as hatched, by which means, and by confining them for some time within an inclosed place,

they soon become more reasonable. In every case I have not been able to trust them until the feathers began to appear: but in several seasons that I have reared them, they have been so distrustful, that it was not safe to allow them liberty, and as soon as ever their wings were grown, they were off. On one occasion I had two of these birds, about a quarter grown, that grew exceedingly slowly: they were very wild, and one night made their escape to the river, where they remained until the evening of the following day, when they were retaken. If I had not previously marked them, nobody should ever have persuaded me that they were the same. I could not have conceived that less than twenty-four hours' immersion in the river could have caused the growth it did: but so it was. Another time I succeeded in making a couple so gentle and sociable that when half grown they would follow me, and eat out of my hand. Soaked bread they are very fond of when young, afterwards corn, &c.; the seed tufts of the sedge are a great treat when soaked in their water. The two birds above mentioned were both ladies, and while I was trying to procure a drake, (no easy matter) they vanished about the end of November, being probably whipped up when out in an adjoining road. One year I lost a fine brood by turning them into an exquisite little pond (as we thought), that had been lined with lime, whereby they became immoveably stuck at the sides, and perished. Another time, in our great kindness we procured some river weeds, water crowfoot, &c., and placed them in their pond, forgetting it was not a running water. The poor little things became apparently tipsy, rolling and turning about in all directions, and speedily coming to an end. One set of docile creatures I succeeded in rearing turned out to be four drakes, and so for one reason or another none have remained over the winter—the more to be regretted as I wished to verify Waterton's account of the wonderful changes in dress the Drake undergoes in June and July, the oddest part of which is that immediately

on the completion of the bird's sober change of raiment, he begins to shed those feathers again, to make room for his gala dress.

"One cause of the diminution of numbers in the Mallard here, is a Fox-preserver about half a dozen miles off. These vermin seem to be fonder of Ducks than anything else, and the Ducks are preserved for them! How they catch them has always been rather a mystery to me, but it must be by lying perdue in the sedge for them. This, however, would seem to be but a poor chance.

"Wild Ducks rendered tame, and corn-fed, are certainly superior to any, having the fine wild flavour without its fishiness. Beech mast are a good occasional diet for Wild Ducks, if thrown into their piece of water.

"This season (1849), I have been particularly successful in rearing the Mallard in a state of domestication. Three different sets of eggs, from five to nine in number, were brought in by our Mowers, and the greater part hatched under Hens. The ducklings were shy at coming out, but as soon as their first feathers began to appear, they would eat from my hand, and follow me eagerly about the garden if they saw me with a spade; seeming to understand that they were about to enjoy their grand treat of worms. Small frogs also did not come amiss, which they gulped down, regardless of the cries of the poor creatures. I noticed that, after they attained their quill feathers, though not previously, they began to eat grass with avidity. Odd scraps at first, and soaked corn and dry rice afterwards, formed their chief food; and this diet, I think, made them mild and agreeable ultimately for the table. Out of many I reared there were only two females—one of which had a singular habit of attacking me with great spirit and much quacking, if I attempted the capture of either of her gentlemen friends. In domestic Fowls this trait is often observed, but I was not prepared to find an instance of it in an unreclaimed bird, some a great deal too young to possess any maternal

impulse. Although these Ducks would often wander to the river, they always returned at my call until about the middle of November, when they became more uncertain, and rather restless, and then were shut within an enclosed garden. Wishing to try whether they would breed in this state, I reserved a pair for that purpose; but soon after the Drake was mysteriously missing. For three days I looked for him to no purpose; and then, thinking the Duck useless without him, had her killed. Next morning to our astonishment the truant Drake re-appeared, but where he had been wandering meanwhile we could not discover. So ended my hopes of an increase for next season."—*H. H.*

The assistance of duck-fanciers is requested for the re-discovery of a sort unknown at present; but described and figured by Albin, in 1735, vol. iii. p. 93, as *the* Madagascar *Duck*.

"It is something larger than the *Tame Duck*, the Bill of a yellowish brown, the Irides of the Eyes of a fine red, the Head and Neck of a dusky green, the Back of a dark purple with a mixture of blew, the Edges of the Feathers red, the Breast a dusky brown, the exterior Edges of each Feather red, the lower Belly brown; the Scapular Feathers green, some Edged with red; the upper Scapulars dusky with a mixture of blew, as was also the first Row of Coverts, and all the Quills their Edges red; the second Row of Coverts green, the Legs and Feet orange colour; this Bird was of so shining a beautiful colour, as cannot rightly be expressed in words: the Breed came first from *Madagascar* in *East India*, and was in the Possession of a *Merchant*, at *Ponders End*, near *Enfield*, who was so good as to let me have some of the Breed to oblige some Gentlemen that had a mind to them." Albin scrupulously avoided the suspicion of admitting into his book any doubtful or imaginary birds; and if the above be, as would appear, a variety of the Tame Duck, its acquisition is to be desired.

THE DOMESTIC GOOSE.

"Daily use demonstrates what great and admirable services the anserine race renders to us, what great and numerous conveniences it affords. For even while living it abundantly supplies us with eggs and young birds for food, with feathers to soften our couch, and with quills as mute interpreters to express the thoughts that arise in our minds. And more, it is a most secure guardian of our persons and our dwellings, far more to be depended on than the Dog," &c. &c.—ALDROVANDI.

WE apply the term "Domestic" to the Goose, using only "Tame" for the Duck, to signify a much closer intimacy with, and submission to the control of Man; and, as a further contrast, the domestication of the common Goose, like that of the Fowl, hides itself, as we pursue it, in the remotest depths, and obscurest mists of ancient history. We have already hinted that by the Hebrews, as by many modern naturalists, it would probably be classed generically with the Swan, and so be included in their list of unclean birds. Among the Greeks and Romans, it seems to have been the only really domesticated water-fowl; and appears to have held exactly the same place in their esteem, that it still retains, after the lapse of two or three thousand years, in our farm-yards, and on our commons. Indeed, a modern writer may escape great part of the trouble of composing the natural history of the Domestic Goose, if he will only collect the materials that are scattered amongst ancient authors. A very early notice of them occurs in Homer. Penelope, relating her dream, says,

> " A team of twenty geese (a snow-white train !)
> Fed near the limpid lake with golden grain,
> Amuse my pensive hours."

Pope's version is both flat and inaccurate. The " snow-white train," (I would bet Mr. Pope a dish of tey—as he rhymes it—that Penelope's *Geese* were not snow-white, whatever the Ganders might be), the " limpid lake," the " pensive hours," are not Homeric, but Popeian. The literal translation of the Greek is, " I have twenty geese at home, that eat wheat out of water, and I am delighted to look at them." We omit the rest of her vision, as little to our purpose ; but her mode of fatting them, and her complacent chuckle at seeing them thrive, could not be surpassed by the most enthusiastic members of the Royal Agricultural Society. If she entertained her numerous suitors with fat roast Goose, it may partly explain why they stuck to her in so troublesome and pertinacious a manner.

The alarm given at the approach of the army of the Gauls by the Geese kept in the capitol of Rome, occurred so long back as A. U. C. 365, or 388 years before Christ. The passage is worth extracting.

" Thus they were employed at Veii, whilst, in the mean time, the citadel and capitol at Rome were in the utmost danger. The Gauls either perceived the track of a human foot, where the messenger from Veii had passed, or, from their own observation, had remarked the easy ascent at the rock of Carmentis : on a moonlight night, therefore, having first sent forward a person unarmed to make trial of the way, handing their arms to those before them, when any difficulty occurred, supporting and supported in turns, and drawing each other up according as the ground required, they climbed to the summit in such silence, that they not only escaped the notice of the guards, but did not even alarm the dogs, animals particularly watchful with regard to any noise at night. They were not unperceived, however, by some Geese, which being sacred to Juno, the people had spared, even in the

present great scarcity of food; a circumstance to which they owed their preservation; for by the cackling of these creatures, and the clapping of their wings, Marcus Manlius was roused from sleep,—a man of distinguished character in war, who had been consul the third year before; and snatching up his arms, and at the same time calling to the rest to do the same, he hastened to the spot, where, while some ran about in confusion, he, by a stroke with the boss of his shield, tumbled down a Gaul who had already got footing on the summit; and this man's weight as he fell, throwing down those who were next, he slew several others, who, in their consternation, threw away their arms and caught hold of the rocks, to which they clung. By this time many of the garrison had assembled at the place, who, by throwing javelins and stones, beat down the enemy, so that the whole band, unable to keep either their hold or footing, were hurled down the precipice in promiscuous ruin."—*Livy*, lib. v. cap. 47.—*Baker's Translation.*

Lucretius, referring to this event (lib. iv. 686) attributes the vigilance of the Geese to their fine sense of smell:—

"The White Goose, the preserver of the citadel of the descendants of Romulus, perceives at a great distance the odour of the human race."

Virgil, alluding to the same occurrence (Æn. viii. 655), ascribes the preservation of the Capitol to an "Argenteus Anser" (a Silver Goose). Both these poets, therefore, inform us that the Domestic Goose of their day differed as much from the Grey-leg or the White-fronted, as it does at present, a circumstance which the reader is requested to bear in mind.

Pliny, about four hundred years later, remarks, (lib. x. 26), "The Goose is carefully watchful; witness the defence of the Capitol, when the silence of the dogs would have betrayed everything . . . . It is possible, also, that they may have some discernment of wisdom. Thus one

is said to have stuck perpetually to the Philosopher Lacydis, never leaving him, either in public, in the baths, by night, or by day." And again at xxvii.—"Our folks are wiser, who are aware of the goodness of their liver. In those that are crammed it increases to a great size; when taken out it is laid to swell in milk mixed with honey. And it is not without cause that it is a matter of debate who was the first to discover such a dainty, whether Scipio Metellus, of consular dignity, or M. Seius, a Roman knight at the same epoch. But (what is certain) Messalinus Cotta, the son of Messala, the orator, discovered the method of cooking the web of their feet, and fricasseeing them in small dishes along with cocks' combs. I am ready heartily to attribute the merit to the kitchen of either. It is wonderful that this bird should travel on foot from the Morini (in the north of France) to Rome. Those which are tired are carried to the front; so that the rest push them on by a natural crowding. . . . . In some places they are plucked twice a year." A great deal of this is the same as has happened with us, with a slight change of names and places.

It is very natural to inquire whence so remarkable and valuable a bird was originally obtained; but the conclusion generally arrived at appears to me to be inconsistent, not merely with truth, but even with probability—namely, that it results from the crossing and intermixture of several wild species. None of these ancient accounts indicate any such fact; but, on the contrary, declare that the Domestic Goose was in the earliest ages (dating with respect to Man) exactly what it is now. The very same arguments that are used to show that the Domesticated Goose is a combination of the Grey-legged, White-fronted, and Bean Geese, would equally prove that the Anglo-Saxon race of Men is derived from a mixture of the Red Indian, the Yellow Chinese, and the tawny Moor. I cannot, therefore, help suspecting very strongly that we shall err in referring the parentage of the Common Goose to *any* existing species. Mr. Yarrell hesitatingly

says, that "the Grey-legged Goose is considered to be the origin from which our valuable domesticated race is derived;" and instances the union of a pinioned wild Grey-legged Gander with a Domestic Goose that had been assigned as his mate.* But those who have kept many different species of Geese together, well know what unaccountable attachments they are frequently forming, and that they are quite as likely to pair, and rear young, with individuals of a race apparently the most alien to themselves as with their own stock. Indeed, amongst Geese, it will be difficult to define the limits of species, at least if the fertility or infertility of hybrids be the test.

But the supposition that all our domesticated creatures must necessarily have an *existing* wild original, is a mere assumption; and it has misled, and is likely to mislead, investigators as far from the truth as did the old notion about fossil organic remains, that they were Lithoschemata, as Aldrovandus has it, sketches in stone, abortive efforts of Nature, imperfect embryos, instead of fragmentary ruins of a former state of things. Some naturalists seem already to have had misgivings that such a theory respecting domestic animals is not tenable; according to the Rev. L. Jenyns,

"The Domestic Goose is usually considered as having been derived from the Grey-legged Goose, but such a circumstance is rendered highly improbable from the well-known fact that the Common Gander, after attaining a certain age, is invariably (?) white. Montague, also, observes that a specimen of the *Anser ferus*, which was shot in the wing by a farmer in Wiltshire, and kept alive many years, would *never associate* with the tame Geese. In fact the origin of this last is unknown."—*Jenyns's*

* These birds have produced young, which by breeding in and in have again produced young resembling themselves; thus giving support to Mr. Yarrell's conjecture. I record the fact. Many readers may think it opposed to the views here expressed: it is the only one I have ever met with at all tending to contradict them.

Manual of Vertebrate Animals, p. 222. The origin of the Domestic Goose is indeed unknown, if we look to Man, or his influence, to have originated so valuable and peculiar a species; but not unknown, if we believe it to have been created by the same Almighty Power who animated the Mammoth, the Plesiosaurus, the Dinornis, and the Dodo. For let us grant that the Grey-legged Goose is the most probable *existing* parent of the domestic sort. Now, even that is becoming a rare bird; and the more scarce a creature is in a wild state, the scarcer it is likely still to become. Suppose the Grey-legged Goose extinct; by no means an impossibility. Then those who *must* have a wild original from which to derive all our domestic animals would be compelled to fall back on some other species still less probable. It is surely a simpler theory to suppose that creatures that were co-temporary with the Mammoth, have, like it, disappeared from the earth in their wild state, but have survived as dependents on Man, than to engage in attempts at reconciling incongruities and discrepancies, which after all cannot satisfy the mind, but leave it in as doubtful a state as ever.

Still less is the White-fronted the ancestor of the Domestic Goose. Entirely white specimens of the *Albifrons* are indeed occasionally hatched in confinement, and the Common Goose may now and then exhibit traces of an *admixture* or dash of blood with it, as it certainly does occasionally, of a cross with the China Goose (*Cygnoïdes*); but these are mere impurities which wear out, and the race returns to the well-known domestic type. And it will be allowed by most persons who have possessed a variety of these birds, and who have watched and tended them day by day, that the Domestic Goose is sufficiently separated from the Grey-legged by the colour of its feet and legs; from the White-fronted by the extreme difference of its voice, manner, time of incubation, colour of the eyes, greater thickness of neck, convexity of profile, and many other little particulars that are more easily perceived than described.

It might be urged, as a further essential difference, that the Domestic Goose is polygamous, whereas all Wild Geese that we are acquainted with are monogamous. It is true that Wild Geese in captivity will couple with the females of other species; but that takes place by their utterly neglecting their own mate for the time, not by entertaining two or more mistresses at once. It will be replied, that habits of polygamy are the effects of domestication; but what proof have we of such an assertion? Domestication has not yet induced the Pigeon and the Guinea-fowl to consort with more than one partner; and the Swan, called Domestic by some writers, remains obstinately and even fiercely faithful in its attachments.

The Domestic Gander is polygamous, but he is not an indiscriminate libertine: he will rarely couple with females of any other species. Hybrid common Geese are almost always produced by the union of a Wild Gander with a Domestic Goose, not vice versâ.

Of the Domestic Goose there really is but one variety, individuals of which are found varying from entirely white plumage, through different degrees of patchedness with grey, to entirely grey colouring, except on the abdomen. The Ganders are generally, not invariably, white. Such are sometimes called Embden Geese, from a town of Hanover, famous also for groats. Fine white Geese may doubtless be hatched at Embden, as well as in Middlesex, and if actually imported may claim the name of their native place, but cannot on that account be allowed to form themselves into a separate clan. High feeding, care, and moderate warmth, will induce a habit of prolificacy, which becomes in some measure hereditary. The season of the year at which the young are hatched (and in England they may be reared at any season), influences their future size and development. After allowing for these causes of diversity, it will be found that the Domestic Goose constitutes only one species or permanent variety.

Mr. Bagshaw, of Norwich, annually fats several thousand Geese for the London market. He has sometimes

as many as 2000 Geese at once on his extensive premises. The birds are collected from all parts, wherever, in short, they can be most advantageously obtained. Some are English, more are from Holland, but the greater part are procured from Prussia. Having been obligingly permitted to inspect this vast assemblage, I could find nothing that had the least claim to be called a variety, though they came from so many different quarters. The nearest approach to it was that some had bills of a dull black, others had the *nail* of the bill black, others again had it white, but there was nothing either in form, voice, gait, or attitude, to afford the least suspicion that there exists any sub-species of the Domestic Goose. One bird was pointed out by the proprietor as differing from the rest. He was a half-bred with the China Goose.

The Toulouse Goose, which has been so much extolled and sold at such high prices, is only the common domestic, enlarged by early hatching, very liberal feeding during youth, fine climate, and perhaps *by age*. I am in possession of Geese, hatched at a season when it was difficult to supply them with an abundance of nourishing green food, that are as much under-sized as the Toulouse Goose is over-sized; they are all Domestic Geese nevertheless. It is for the sake of enlarging the growth of the Goslings, not for the mere purpose of supporting their strength, that the breeders cram them night and morning with flour-and-egg pellets. Grass alone would suffice for their sustenance, but extra nourishment makes extra-sized birds. Toulouse Geese are fine, six-foot-high, grenadier individuals of the Domestic Goose—that is all. Some were to be seen not far from the Horse Guards, in proximity to their human representatives, in the autumn of 1848.

The importance of feeding all growing creatures abundantly and well, cannot be too often forced upon the attention of the breeder, whether of fowls or quadrupeds. A pertinent illustration of its effects even upon Man, is given by the Rev. John Williams, in his "Missionary

Enterprises," p. 512. "The men are strong and tall, being frequently upwards of six feet high, with limbs firm and muscular, but not heavy and clumsy. This is especially the case with the chiefs, and more remarkably so with those of Tongatabu and the Friendly Islands, whose form and bearing are as stately as their movements are natural and free. The women are inferior to the men; but yet they often present the most elegant models of the human figure.

"Captain Cook attempted to account for the superior size of the chiefs, by supposing that they were a distinct race; but in this we think he was incorrect. It may perhaps be attributed in part to their progenitors, who were probably raised to the chieftainship on account of their physical superiority, or of some achievements which resulted from it; partly to their mothers, who were generally selected by the chiefs for their form and stature; and partly to their treatment during the years of childhood and youth. As soon as the son of a chief was born, two or three of the finest and most healthy women were selected to nurse it; and while performing this office, which they frequently did for three years, they were provided with abundance of the best food. A child of Tinomana, of Rarotonga, had four nurses, and he was a little monster. With this commencement, their subsequent training corresponded. I think these causes sufficient to account for the superiority of the chiefs, many of whom are certainly splendid specimens of human nature." We think similar causes sufficient to account for the superior size of the Toulouse Geese, which really do look like common Geese, as they would appear if seen through the long focused magnifying glass of a raree-show.

The following will be pronounced a mere case of malformation, not the springing up of a new variety.

"I have noticed that in a flock of Geese here, from which many goslings are reared every season, there is always one bird, and sometimes two, with the two farthest

joints of one wing growing as if they had been twisted round out of their proper position. None of the old Geese have this peculiarity, nor, as far as I can ascertain, does it arise either from ill-treatment, or the forcing themselves through narrow places. It seems rather to be a natural *lusus* of the wing joint, and one would think must effectually prevent their flying."—*H. H.*

The value and usefulness of Geese is scarcely calculable. We omit what is owing to them, as having furnished the most powerful instrument wielded by the hand of Man. But in a mere material point of view, and reckoning on the very smallest scale, we will suppose that a village green supports only fifty brood Geese. The owners of these would be dissatisfied if they got but ten young ones from each in the year, besides eggs; this gives 500 Geese per annum, without taking the chance of a second brood. Multiply 500 by the number of village greens in the kingdom, and we still form a very inadequate estimate of the importance of the bird. And all this with scarcely any outlay. The little trouble they demand of being secured at night and let out in the morning, of setting the Geese, and "pegging" the Goslings, is a source of amusement and interest to thousands of aged and infirm persons, in whose affections their Geese stand second only to their children and relations. What a pity it is that such cheerful commons should be ever converted into barren thickets and damp Pheasant covers, to afford a school for young sportsmen and rural policemen to practise their several arts in.

The only damage they do, lies in the quantity of food they consume; the only care they require, is to be saved from thieves and starvation. All the fears and anxieties requisite to educate the Turkey and prepare it for making a proper appearance at table, are with them unnecessary; grass by day, a dry bed at night, and a tolerably attentive mother, being all that is required. Roast Goose, fatted, of course, to the point of repletion, is almost the only luxury that is not thought an extravagance in an econo-

mical farm-house; for there are the feathers to swell the mistress's accumulating stock of beds, there is the dripping to enrich the dumpling, pudding, or whatever other farinaceous food may be the fashion of the country for the servants to eat, there are the giblets to go to market or make a pie for a special occasion, and there is the wholesome, solid, savoury flesh for all parties in their due proportion.

They are accused by some of rendering the spots where they feed offensive to other stock; but the secret of this is very simple. A Horse bites closer than an Ox, a Sheep goes nearer to the ground than a Horse, but, after the sharpest shaving by Sheep, the Goose will polish up the turf, and grow fat upon the remnants of others. Consequently, where Geese are kept in great numbers on a small area, little will be left to maintain any other grass-eating creature. But if the commons are not short, it will not be found that other grazing animals object to feed either together with, or immediately after a flock of Geese.

Many instances of the longevity of the Goose are on record, and it is needless to repeat them. I have myself seen one upwards of thirty years of age followed by a thriving family; but they are capable of reaching double and treble that extent of life. Indeed, the duration of the existence of the Goose seems to be indefinitely prolonged, and not terminable by the usual causes of decay and old age (like Pliny's Eagle, which would live for ever, did not the upper mandible become so excessively curved as to prevent eating, and cause death from starvation); and reminding us of the accounts, apparently not fabulous, which we hear in these modern times respecting the Pelican and the cartilaginous fishes. One thing is certain, that housewives do not consider Geese to be worth much for breeding purposes, till they are four or five years old. They will lay and produce some few young ones in the course of their second summer; but older birds fetch much higher prices as stock. Three or four Geese may be allotted to one Gander; the male bird is known by

being *generally* white, and also by his bold and patronising carriage. He is an attentive sentinel while his dames are incubating, but renders them no personal assistance by taking his turn upon the nest—an error which seems to have originated with Goldsmith. When the young at length go forth to graze, he accompanies them with the greatest parental pride and assiduity.

The Goose has the additional merit of being the very earliest of our Poultry :—

> "On Candlemas day
> Good housewife's Geese lay;
> On Saint Valentine
> Your Geese lay, and mine."

In three months, or at most four, from leaving the egg, the birds ought to be fit for the feather-bed, the spit, and the pie. It is better, either to eat them at this early stage as green Geese, or, to keep them another six months, till after they have moulted and renewed their feathers, when they can be fatted till they grow into the ponderous, satisfactory, succulent joint which suits a healthy Michaelmas or Christmas appetite. It will be found unprofitable to kill them between these two epochs of their life. They will be fatted by being shut up, in society, in a clean, quiet, outhouse, with plenty of dry straw, gravel, and fresh water, and are there to be supplied for a certain length of time, continued according to the weight desired to be laid on, with all the barley or oats they can eat. The kind of grain used depends upon custom or convenience, some advocating barley, others oats; a mixture might perhaps be the most effectual. Barley-meal and water is recommended by some feeders; but full-grown Geese that have not been habituated to the mixture when young, will occasionally refuse to eat it. Cooked potatoes in small quantities do no harm. A first-rate delicacy, though rather expensive, would be produced by following Penelope's system of feeding, and giving the birds steeped wheat.

The Goose is not only very early in its laying, but also very late. It often anticipates the spring in November, and afterwards, when spring really comes in March, it cannot resist its genial influence. The autumnal eggs afford useful employment to Turkeys or Hens that choose to sit at unseasonable times: and the period of incubation, thirty days, is less tedious than that required for the eggs of China Geese or Musk Ducks. A dry, airy lean-to or shed, and the gleanings of a kitchen garden, are all that are needful to rear the young. Their great enemy will be the cramp, which may be kept off by making them sleep on dry straw, and turning them out with their mother for an hour or two every mild and open day. When winter Goslings are expected, a Michaelmas planting (not sowing) of lettuce and endive should be made; the latter will be found particularly serviceable, as also the tender parts of turnip tops. A living turf laid down in the outhouse and changed occasionally, will be relished. A little boiled rice daily assists their growth, with corn, of course, as soon as they can eat it. A rushlight burnt in a Goose-house during the fifteen or sixteen hours of darkness in winter, has been successfully employed to induce the Goslings to eat. And when it is remembered that the candle costs the fraction of a penny, while an early green Goose is worth from seven shillings to half-a-guinea, it will be seen that the expense is not thrown away. Almost all breeders of Goslings administer, by cramming, long half-dried pellets composed of raw egg and wheat flour; it is an old practice, but is unnecessary, except during mid-winter.

We give Columella's directions for rearing:—

"And the Gosling, while he is very little, is shut up in a pen for the first ten days, and fed along with his mother: afterwards, when the fine weather permits, he is led forth into the meadows, and to the fish-ponds. And care must be taken that he is neither stung by nettles, nor sent fasting to the pasture, but has his appetite satisfied beforehand with chopped endive or lettuce leaves.

For if he goes to pasture still weak and hungry, he tugs at the shrubs and more solid herbs so pertinaciously as to break his neck."—*Columella*, lib. viii., chap. xiv. The Roman school of poulterers were in great fear of nettles for their Goslings, and as a counter-irritative remedy, it was proposed to place nettle-roots under the sitting Geese; but one would say that the nettles, not the Goslings, had the greatest reason for alarm.

Geese are slaughtered by being bled from the internal parts of the throat,—a slow and cruel method. They, as well as Ducks, should be let out to the pond a few hours before execution, where they will purify and arrange their feathers as neatly as if they were going to their wedding instead of to their death. Adult birds are almost exempt from disease. When three-quarters grown, they occasionally, though not often, "go light," as the country-people call it, and waste and die like a person in a consumption. This usually happens only with birds that are shut up too closely to fat. The remedy is liberty and grass.

I have seen the shell of a Goose's egg that had contained *three* yolks.

The flight of the Domestic Goose is quite powerful enough, especially in young birds, to allow them to escape that way, were they so inclined. In the autumn whole broods may be seen by early risers, taking their morning flight, and circling in the air for matutinal exercise, just like pigeons when first let out of their locker.

THE BERNICLE GOOSE.

"Birds which the vulgar call Baumgänse, that is, Tree Geese, because they are said to be produced on trees, from the trunk and branches of which they hang. They say also that these creatures are sometimes generated in the sea, from decayed planks, particularly fir-wood. And this is altogether absurd."—*Ortus Sanitatis.*

"The Bernicle Goose, though an occasional visitor to Sutherland, is much more rare than the Brent Goose. The Brent Goose is more frequent on the east coast, while the Bernicle keeps to the western side of the county."—CHARLES ST. JOHN.

SEVERAL ornithological writers have lamented, with expressions of surprise, that so few of the larger water-birds have been domesticated, and made to afford us a ready supply of food, in return for their board and lodging. But it should be remembered that there are two parties to the proposed arrangement—the master and the slave. If the captive resolutely persists in saying, "You may bestow every care upon me, and lavish every comfort, but I *will not* be the parent of a race of slaves, although I may show a little personal thankfulness to yourself," the next move for us to make is to procure young that are ignorant of the fascinations of a wild life, and to endeavour to subdue, by kindness, *their* stubbon nature. If they remain indomitably independent, and refuse to yield, we are check-mated, and cannot proceed a step further. It is not in *our* power to increase the number of domesticable birds. "The fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth," is a promise which will be undoubtedly fulfilled; and thus, as the

dominion of man over the earth daily and hourly extends itself, those creatures that refuse to enter into his train, will be crushed, and perish beneath his advancing footsteps; for, "into your hand are they delivered. Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things."

The Bernicle Goose is one of those species in which the impulse of reproduction has at length overcome the sullenness of captivity; and it is a curious fact, that instances of their breeding have of late increased in frequency, and we may therefore hope will go on increasing. The young so reared should be pinioned at the wrist, as a precaution. The probability is, that they would stay at home contentedly, unpinioned, till hard weather came, when they would be tempted to leave their usual haunts in search of marshes, unfrozen springs, mud banks left by the tide, and the open sea, where they would be liable to be shot by sporting naturalists—a fate which has done more than anything else to check the propagation of interesting birds in England—or might be induced to join a flock of wild birds, instead of returning to their former quarters.

Here is a warning example. The pinioning of a brood of Egyptian Geese had been delayed too long; they could fly, and though they came to be fed as usual, would not suffer themselves to be caught. In the winter, during a hard frost, they flew down to the marshes a few miles distant. Their keeper happened to be on the road thither, and seeing them in the air overhead, called to them as usual. They knew his voice, wheeled about, hovered for a moment, and then pursued their course. Shortly afterwards they were shot by mistake for wild birds, by a person who must have been aware that there was a collection of water-fowl in the neighbourhood; in which, however, there are now only male Egyptian Geese, the mother of the brood having suffered the same fate. Similar unfortunate mistakes are frequent. Does the paragraph in the local newspaper about the "rare bird"

shot by so and so, esquire, and the stuffed specimen in the smart glass case, compensate for the slaughter ?

Broods of five, six, and seven Bernicle Geese have been reared ; not an inconsiderable increase, if we only kept them to eat : but they have hitherto been chiefly valued as embellishments to our ponds. Their small size renders them suitable even for a very limited pleasure-ground, and they are perhaps the very prettiest Geese that have yet appeared in our menageries. The lively combination of black, white, grey, and lavender, gives them the appearance of a party of ladies robed in those becoming half-mourning dresses, that are worn from etiquette rather than sorrow. The female differs little from the male, being distinguished by voice and deportment more than by plumage. Their short bill, moderate sized webs of their feet, and rounded proportions, indicate an affinity to the Cereopsis. The number of eggs laid is six or seven ; the time of incubation about a month, but it is difficult to name the exact period, from the uncertainty of knowing the precise hour when the process commences. The Geese are steady sitters. Their young had better be crammed with very small pegs for the first week or so, after which they may be entirely confided to their parents. They are lively and active little creatures, running hither and thither, and tugging at the blades of grass. Their ground colour is of a dirty white. Their legs, feet, eyes, and short stump of a bill, are black. They have a grey spot on the crown of the head, grey patches on the back and wings, and a yellowish tinge about the forepart of the head. The old birds are very gentle in their disposition and habits, and are less noisy than most other Geese. Waterton mentions an instance where the Gander paired with a Canada Goose, a most disproportionately large mate for him to select. The same thing has occurred in Norfolk, but in this case the ludicrous union was altogether unproductive.

The service they may render as weed-eaters should not be forgotten, though their size alone precludes any com-

parison of them with the Swan in this respect. Sir W. Jardine says that he has observed their feeding-grounds to be extensive merses or flats partially inundated by the higher tides, a circumstance that may furnish a hint that their breeding may perhaps be promoted by their being furnished with a little sea-weed during winter and early spring. They are also sufficiently removed from the typical Geese to make it possible that a few cockles, limpets, shrimps, or small mussels would not be unwelcome. A single pair would be more likely to breed than if they were congregated in larger numbers : and the price demanded by the London dealers is not extravagant for healthy living specimens.

The young of the Bernicle Goose, like those of the Canada and White-fronted Geese, when left entirely to the guidance of their parents in this country, are apt to be attacked by a sort of erysipelatous inflammation of the head, similar to that from which the Domestic Fowl suffers so much, and which proves equally fatal. The eyelids swell till the bird is blinded ; its sufferings must be extreme, even if it recover. The parts affected discharge copiously a watery fluid. Frequent washing with warm water and vinegar is the best remedy, and cramming the bird to keep it alive, must be resorted to. Pills of rue leaves, or a strong decoction of rue, as a tonic, have been administered with apparent benefit. The disease seems epidemic rather than contagious, though I would not quite deny that it is so ; but of all remedies warmth and dryness, particularly at night, are the most indispensable. Goslings hatched about midsummer in the Arctic regions know not what it is to feel the absence of the sun. A Scandinavian summer's night, even in those latitudes where the sun does sink for an hour beneath the horizon, differs from the day in little else than stillness. There are no frosts succeeding a broiling day, no chilling dews which require hours of sunshine to remove, but all is, for the time, perpetually bright and warm and genial. The difference between such a climate

and an English May must be seriously felt by our tender little pets, whatever care we may take to protect them. This clear uninterrupted day, two or three months long, of settled, delicious weather, gives a complete explanation of the apparent paradox that birds should retire to the regions, reputed absolutely icy, of the North, for breeding purposes. But those who have made the precincts of the Mediterranean their Elysium on earth, can have no conception of the health, the vigour, the manly tone of mind and body, to be inspired from Hyperborean breezes.

Oh ! that I had the wings of a Dove ; then would I flee away with my little ones to the rich pine forests, the rushing streams, the deep-cut inlets of the far North, and be at rest, till the snow-drifts of October made us again retreat, with the wild-fowl, to the temperate and hospitable shores of Britain !

THE BRENT GOOSE.

"The Brent Goose comes to most of the inlets of the sea in immense numbers during the winter: it is one of the best wild-fowl for the table." *Vol. I., p.* 139. "Wigeon and Brent Geese also, and in fact all wild-fowl, are good or bad eating, according to where they feed, in the same way that the dog of the Chinese, which is fatted for the table, must be very unlike in flavour to a fox-hound who has been fed on horseflesh." p. 201.—St. John's *Tour in Switzerland.*

"The Brent Goose is an excellent bird; killed inland it is delicious; it has a remarkable smell of truffles. Under the denomination of the 'Wexford Barnacle,' (I can speak with certainty, Mr. F. Bruen, M.P. for Carlow, having some time since sent me some,) it has an uncommon reputation. I am told there is a particular weed in those parts, of which these birds are so fond, that when it is carried up the river by the tide, they, although wild birds, follow it up to the bridges on the skirts of the town, and are there killed. Their excellence is attributed to the flavour derived from this food."—Mr. John Baily.

This, and the interesting little Sandwich Island Goose, are the smallest of their tribe yet introduced to our aquatic aviaries; both being inferior in size to some Ducks. The captive Brent Goose has not, that I am aware, bred in any British collection. According to Audubon, it has been known to produce young in captivity, but when, or where, or on what authority, is not stated. To attain this result here, the most likely method is, probably, to make an approach to their natural habits by supplying them with occasional marine diet. Fragments of shells, that had apparently been swallowed whole, have often been found in their gizzards. It might also be expedient to assemble them in a flock, instead of keeping just a single pair, so that they could consult their own individual tastes in the choice of partners. Their picturesque effect,

too, will be greater in this way. Their almost uniform colour of leaden black, and their compactness of form, make them a striking feature in the scene, though they cannot be compared in beauty with many other water-fowl. They may always be obtained from the London dealers. There is so little difference in the sexes, that it is not easy to distinguish them. Their chief merit, however, rests in their fondness for water-weeds, in which respect they appear to be second only to the Swan. On this account, Ware Goose is one of their trivial names.

"Brent Geese have the cunning, in general, to leave the mud as soon as the tide flows high enough to bear an enemy, and then go off to sea, and feed on the drifting weeds."—*Colonel Hawker.*

"On the north-eastern shores of England, where we have had opportunities of seeing them, they might be considered as entirely maritime, not being known to leave the water-mark, or ever to feed on the pastures or young grain. During ebb-tide, they fed on the banks of *Zostera marina*, then uncovered; and Mr. Selby mentions the *ulva latissima* as very frequently found in their stomachs; at other times they rest on the sandbanks, which are quite open, and afford no shelter for approach; or they ride, as it were, just off the land, buoyant upon the wave, and occasionally pluck the sea-grass or weeds which are yet borne up within their reach."—*Sir W. Jardine.*

Brent Geese are quiet, gentle, and harmless, in captivity. Having eaten only Norfolk-killed specimens, I cannot agree with those who praise them on the table. They were fishy, strong, and oily; but whoever is not fond of such savours, may convert the birds into tolerable meat, by having them skinned, and baked in a pie.

"Immense numbers of Brent Geese," says Mr. St. John, "float with every tide into the bays formed by the bar. As the tide recedes, they land on the grass, and feed in closely-packed flocks. On the land they are light, active birds, walking quickly, and with a graceful carriage. On any alarm, before rising, they run together

as close as they can; thus affording a good chance to the shooter, who may be concealed near enough, of making his shot tell among their heads and necks. All Geese and Swans have this habit of crowding together when first alarmed.

"A wounded Brent Goose, which I brought home, very soon became tame, and fed fearlessly close to us; indeed, I have frequently observed the same inclination to tameness in this beautiful kind of Goose."

EGGS.

"Do you see that the resemblance of one egg with another has passed into a proverb? Yet, granting this to be true, I have heard that there were in Delos many people who used to keep a number of Hens for the sake of profit; and when they inspected their Eggs, were in the habit of pronouncing which Hen had laid that particular one."—CICERO, II. *Academicarum.*

THE Deliaci, it is clear, knew something about "Eyes and no Eyes, or the Art of Seeing;" for Eggs are popularly supposed to be so much alike, that what can be said about one Egg is thought applicable to every other laid by the same species of bird, the common Hen for example; but there is nearly as much distinguishable difference between the units in every egg-basket which is carried to market, as there is between the faces in a crowd of men, or the hounds in a pack. To every Hen belongs an individual peculiarity in the form, colour, and size of the Egg she lays, which never changes during her whole lifetime, so long as she remains in health, and which is as well known to those who are in the habit of taking her produce, as the handwriting of their nearest acquaintance. Some Hens lay smooth, cream-coloured Eggs, others rough, chalky, granulated ones: there is the buff, the snow-white, the spherical, the oval, the pear-shaped, and the emphatically Egg-shaped Egg. A farmer's wife who interests herself in the matter, will tell you with precision, in looking over her stores, "this Egg was laid by such a Hen"—a favourite, perhaps—"this one by such another;" and it would be possible that she should go on so throughout the whole flock of poultry. Of course, the greater the

number kept, the greater becomes the difficulty in learning the precise marks of each. From a basket of thirty Eggs, gathered in a farm-yard as they came to hand, eleven, laid by one or two Hens, whose race we were desirous to continue, were selected in about two minutes by the friend who supplied us with them. If four dozen Eggs, laid by no more than four different Hens (especially if of different breeds), were put at random on a table, the chances are that it would be as easy to sort them as the four suits of a pack of cards.

This fact might give rise to curious doubts in a court of justice. When petty pilfering has been suspected about a farm, Eggs have been minutely marked and returned to the places whence they were taken ; and the parties, in whose possession they were subsequently found, have been convicted of the theft. And this—if we shut our eyes to the crime (for it *is* a crime) of laying traps and throwing temptation in the way of the weak—was satisfactory proof. But there are some cases in which the identity of an Egg could be sworn to without any marking whatsoever ; where the person robbed could affirm positively "this Egg is my property, laid by such a Hen,"—could pick it out from a quantity laid by other Hens, and could produce other Eggs to pattern it in proof of his assertion. Few town-bred juries would believe this ; and yet it is quite as possible as that a north-country shepherd should swear to the countenance of a single sheep stolen from a flock of several hundreds—after the death of the animal too—which has been done.

A more practical and agreeable application of our remarks may be made in the choice of Eggs for hatching. It has been copied and re-copied from quarto to octavo, through duodecimo and pamphlet, that small round Eggs produce female, and long pointed ones male chicks. Now I assert that the Hen who lays one round Egg, will continue to lay all her Eggs round ; and the Hen that lays one oblong, will lay all oblong. Consequently, one Hen would be the perpetual mother of Cocks, another must remain

the perpetual producer of Pullets; which is absurd, as daily experience proves. Every dairy-maid knows that when a Hen steals a nest and hatches her own Eggs only, the brood which she brings home contains a fair proportion of either sex. I know well that if any of the said Hen's female acquaintance spy out her secret hoard, they will set other bipeds a good example by adding to, instead of subtracting from, the property of her neighbour. But such chance additions are not sufficient to account for the mixture of Cocks and Hens in self-set broods, supposing the theory to be correct, that the sex of the future chick is denoted by the form of the Egg.

Here is an experiment in point. An old lady, whose fowls were all white, gave me a small globular Egg, as round as a ball; it was added to a clutch of Speckled Dorkings. The result was the due number of Dorkings, and one white cockerel, which we kept till he began to crow: it ought to have been a pullet, unless the compositor's fingers have been busy in reprinting one error at least.

Another supposed test is the position of the air-bag at the blunt end of the shell. We are told that, "if it be a little on one side it will produce a Hen; if this vacuity be exactly in the centre, it will produce a Cock." But, take a basket of Eggs, examine them as directed, by holding them between your eye and a candle, and you will find very few indeed in which you can say that the air-bubble is exactly concentrical with the axis of the Egg. A Cock ought thus to be, like Ovid's Black Swan, a rare bird. But in many broods, the cockerels bear a proportion of at least one-third, sometimes two-thirds; especially in those hatched during winter or in unfavourable seasons; the immediate cause being, doubtless, that the Eggs producing the robuster sex possess a stronger vitality; the more remote cause being the same wise law of Providence, through which, in the human race, more males are born into the world than females, to meet the wear and tear of war, labour, and accident.

"Neither," as Mr. Bissell shrewdly suggests, "are these two tests, viz., the shape of the Egg, and the position of the air-bubble, consistent with each other. Since I have been an experimenter upon that subject," he says, "and my experience is corroborative of all that you have said, I will just give you the facts as they occurred in one or two instances out of a great number of similar ones.

"The fact of the situation of the air-bag being as varied in a round Egg as in an oval or long one, seems to me, of itself, to be fatal to the test by which we are told to distinguish the sex of future chickens; for if the round Egg produces a pullet, and an Egg with the air-bag a little on one side produces the same, it argues that all round Eggs should have the air-bag in that position (the same argument applies to the long or oval egg), or one test contradicts the other. That such is not the case, and that the position of the air-bag differs as much in a long Egg as it does in a round, I need hardly assert, for the doubt may be decided by the examination of a few Eggs by the light of a candle. In hatching my Spanish Fowls, I was careful to examine, and set none but round Eggs, with the air-bag on one side, and if there is any truth in either principle, I ought to have had all pullets; but this, instead, is the result:—From thirteen Eggs selected as above stated, were hatched, in June, ten chickens, which proved to be four cocks six pullets; from eleven Eggs, set early in July, were produced six chickens, viz., three cocks and three pullets; from thirteen Eggs, set in July, were produced eight chickens, viz., five cocks and three pullets; so that you have about equal numbers of either sex from Eggs which were as like each other in form, size, and position of air-bag as it is possible for Eggs to be like each other. So much for the over-wise!"

In short, the Bubble Theory, as far as I have seen, is properly described by its name; and there are, I believe, no known means of determining beforehand the sex of fowls, except, perhaps, that Cocks may be more likely

to issue from large Eggs, and Hens from small ones. Knowing, however, that the Egg of each Hen may be recognised, we have thus the means of propagating from those parents whose race we deem most desirable to continue.

A correspondent of the Agricultural Gazette has recorded another experiment:—"During the last summer I wanted to raise a stock of poultry from a favourite Hen and Cock. They were of the black-breasted red Game breed. The Cock was purely bred, but the Hen was a little crossed. The Eggs she laid were of a deep buff colour, and as she was the only Hen I had which laid yellow Eggs, they were easily collected. When I had 26 eggs, I put 13 of the largest under a brood Hen to be hatched; one Egg got broken, the other 12 had chickens in them; one, however, died in the shell, and so the number was reduced to 11. Of these one died before I could ascertain its sex; of the 10 remaining, 8 were Cocks and 2 were pullets. The 13 smaller Eggs I also put under a broody Hen, and she hatched me 10 chickens. Of these 8 were pullets and 2 were Cocks. There is no difference in the shape of the Eggs laid by the same Hen; in size they vary but little. I observe this peculiarity, that although the Hen has yellow legs and the Cock black, yet throughout 4 broods which I have had from the same Hen and Cock this summer, every yellow-legged chicken has proved a Cock, and every black-legged one a pullet." Sir Thomas Brown was quite right: "that the sex is discernable from the figure of Eggs, or that Cocks or Hens proceed from long or round ones, as many contend, experiment will easily frustrate."

Horace, Columella, and Pliny had the same notions respecting the shape of Eggs as are current now, but they applied them to eating, rather than hatching purposes. The long eggs were better tasted, according to them, *because* they contained Cocks: "Those which are laid round, produce a female; the rest a male."—*Pliny*, Lib. x., c. 74.

Again, as quaintly rendered by Philip Francis, D.D.:

> "Long be your Eggs, far sweeter than the round,
> Cock-Eggs they are, more nourishing and sound."
> HORACE, *Serm.* l. ii., Sat. 4, line 12.

The popular notion now is that Eggs with buff and brownish shells have a higher flavour, and are more nutritious. Aristotle's opinion is exactly the reverse of that of the Romans. He says that, "Long and sharp Eggs are females, but that those that are spherical and have a convexity close to the sharp end are males." One rule is just as good as the other; that is, good for nothing. When any one will produce a brood consisting entirely of *pullets* hatched from Eggs selected with that view, I will allow that there exist *practical* criteria for judging beforehand of the sex of an Egg.

"Preserved Eggs," says Cobbett, "are things to run *from*, not after." Perhaps so, perhaps not, as the case may be. At any rate, many articles of cookery, which cannot be made without Eggs, are not things to run from; and, therefore, preserved Eggs must be had, unless you choose to disappoint the little folks of their Christmas plum-pudding. The greater part of the Eggs brought to market in Norfolk during winter, are certainly displeasing enough, quite uneatable *as Eggs*, and only *not offensive* to the smell. They are saved from putrefaction by immersion in lime-water, to which salt is added by some housewives. When wanted, they are fished out of the tub, wiped, rubbed with a little silver-sand to give a fresh looking roughness to the shell, and sold at the rate of eight for a shilling, if the season happen to be severe. Cooks say they answer *their* purpose: but it is assuredly worth while to try for something better.

Reaumur's experiments with varnish, so well known through the industry of compilers, appear to have succeeded. But varnished Eggs would be both too troublesome and too expensive to be the subject of more than mere experiment. The best way of obtaining a practical

result is to inquire what method is pursued by any set of people to whom preserved Eggs are a matter of necessity, not luxury. Now there exists a tribe of men, British subjects, whose daily food, whose staff of life, is fowls and Eggs—both preserved during great part of the year. In maps of the Ancient World, the *orbis veteribus notus*, we see nations marked down as Ichthyophagi, Fish-eaters, Lotophagi, Lotus-eaters; and a new race, peculiar to the present day, appears to be springing up, the Mycophagi, or Fungus-eaters, who will be wise if they listen to the warnings of Dr. Lindley. Had the people of St. Kilda been known in those days, they would have been styled Ornithophagi, Bird-eaters, and Oophagi, Egg-eaters. Instead of their keeping Fowls, the Fowls keep them. Martin in his voyage to the Island of St. Kilda, (London, MDCXCVIII.) says, "I remember the allowance of each Man *per diem*, beside a Barley Cake, was Eighteen of the Eggs laid by the Fowl called by them *Lavy*,* and a greater Number of the lesser Eggs, as they differ in Proportion; the largest of these Eggs is near in bigness to that of a Goose, the rest of the Eggs gradually of a lesser Size. We had the curiosity after Three Weeks residence, to make a Calcule of the number of Eggs bestowed upon those of our Boat, and the *Stewart's Birlin*, or *Galley*, the whole amounted to Sixteen thousand Eggs; and without all doubt, the Inhabitants, who were tripple our Number, consumed many more Eggs and Fowls than we could. From this it is easy to imagine, that a vast number of Fowls must resort here all Summer, which is yet the more probable if it be considered, that every Fowl lays but one Egg at a time, if allowed to hatch."—P. 12. Subsequently (p. 66.) he tells us, "The Eggs are found to be of an Astringent

* Subsequently he says, "The *Lavy*, so called by the inhabitants of St. *Kilda*; by the Welch, a Guillem; it comes near to the bigness of a Duck; its head, Upper-side of the Neck all downwards, of a dark-Brown, and White Breast, the Bill strait and sharp pointed; the upper Chop hangs over the lower; its Feet and Claws are Black."

and Windy Quality to Strangers, but, it seems, are not so to the Inhabitants, who are used to Eat them from the Nest (or cradle ?). Our Men upon their arrival Eating greedly of them became Costive and Feverish," &c. * * * (Then follows the remedy, which seems to have astonished the natives.)

But this diet is to be had fresh only during a short part of the summer, and provision must be made to prevent famine in the winter, when it is too stormy to fish; therefore, says Martin, "They preserve their Eggs commonly in their Stone-Pyramids, scattering the burnt Ashes of Turf under and about them, to defend them from the Air, dryness being their only Preservative, and moisture their Consumption; they preserve them, Six, Seven, or Eight Months, as above said; and then they become Appetizing (?)* and Loosening, especially those that begin to turn." Later travellers inform us that the same system still continues to be practised.

The shells of these sea-birds' Eggs are more fragile than those of the common Hen, which circumstance must cause them to be more difficult to preserve; and turf-ashes clearly make a sweeter and more effectual packing than lime-water, or the means usually adopted in England. But they are only to be had in certain localities. Wood-ashes are too light, and cinder-ashes too loose to exclude the air. The Irish plan of smearing fresh-laid Eggs with butter answers well for a limited time, but is insufficient to keep them through the winter. The plan I have found to succeed best, and can recommend, is to dip each Egg into melted pork-lard, rubbing it into the shell with your finger, and pack them in an old fig-drum, or butter firkin, setting every Egg upright, with the small end downwards. Eggs thus prepared in August, directly after harvest, have been boiled and eaten with relish by myself and family in the following January. They were not like the Eggs we are used to in spring; but I heard no complaint from the

* Does this mean heavy on the chest, from the Italian *a*, and *petto*, the chest?

little ones, and they were much better than any kept Eggs we could buy.

The following is a cheap and easy recipe on the same principle. Pack the Eggs to be preserved in an upright earthen vessel, with their small ends downwards. Procure from your butcher a few pounds of rough tallow the same day on which the sheep is killed; have this immediately cut into small pieces and melted down; strain it from the scraps, as is done with pork-lard, and pour it while warm, not hot, over the Eggs in the jar till they are completely covered. When all is cold and firm, set the vessel in a cool dry place, till its contents are wanted.

The rough tallow will cost about 3*d*. a pound, and if treated as directed will be free from its usual unpleasant smell, caused by the fleshy parts being suffered to remain in the fat till melting-day comes. When the Eggs are used, the grease need not be wasted, but will serve for many homely household purposes.

But for those who scorn preserved Eggs, and must and will have fresh ones during the winter, the means most desirable to obtain success are to have young hens—pullets hatched early the previous spring are the best—extreme liberality in feeding, and a cautious abstinence from overstocking the poultry-yard. Eggs are the superfluity of the animal's nutrition—the profitable balance of its stock of provision. A certain quantity of food will keep a certain quantity of Hens in health, without being sufficient to cause them to lay. Increase the quantity of food, or decrease the number of Hens, and you have a superabundance, which produces Eggs. But as the rejected scraps of every family, and the refuse odds and ends of every farming premises, are tolerably steady in their amount, taking one month with another, it is better to have a small number of Hens, leaving them to forage from the supply which is constantly open to them, than to trust to extra hand-feeding, which may be often neglected or shortened.

A warm and dry night's lodging is good, but not so confinement during the day, even in the best of poultry

houses. The Hens will always keep themselves out of the wet, and no care can compensate for the exercise and variety of food afforded them by a state of liberty.

There is nothing so instructive as a case, whether in law, physic, or poultry-keeping. During the hard winter of '46-'47, our own Hens not laying, we obtained a plentiful supply fresh laid from a neighbouring farm. The Hens were common dunghill mongrels, the accommodation for them not so good as our own. But the Eggs were the perquisite of the farmer's wife—her pin-money by a mutual understanding—while the corn went into the pocket of the farmer. The lady consequently permitted her pullets, without the least remonstrance, to make a large hole in a barley-stack, pull out the straws one by one, and, when they had tasted an ear, if they did not approve its flavour, try another. Whether the man grumbled, and the wife pouted and carried her point, is not for us to tell, if we knew. It is certain that the price we were charged for the Eggs did not pay for the damage done by their production.

A paragraph from the Perth *Courier* ran the round of the papers, and obtained considerable attention at the time (Dec. 1847) from inexperienced poultry-keepers :— "Hens will lay Eggs perpetually, if treated in the following manner. Keep no Roosters"—what an elegant word!—"give the Hens fresh meat, chopped up like sausage meat, once a day, a very small portion, say half an ounce a day to each Hen during the winter, or from the time insects disappear in the fall, till they appear again in spring. Never allow any Eggs to remain in the nest for what is called Nest-eggs. When the Roosters do not run with the Hens, and no Nest-eggs are left in the nest, the Hens will not cease laying after the production of twelve or fifteen Eggs, as they always do when Roosters and Nest-eggs are allowed, but continue laying perpetually. My Hens lay all winter, and each from seventy to one hundred Eggs in succession. If the above plan were generally followed, Eggs would be just as

plentiful in winter as in summer. The only reason why Hens do not lay in winter as freely as in summer, is the want of animal food, which they get in summer in the form of insects. I have for several winters reduced my theory into practice, and proved its entire correctness."

No allowance is here made for the different laying and incubating capabilities of different breeds of Fowls; and the Reader will be wise in hesitating before he consents to banish Cocks from his poultry-yard and Nest-eggs from his hen-house. The act of laying is not voluntary on the part of a Hen, but is dependent upon her age, constitution, and diet. If she be young, healthy, and well-fed, lay she must; if she be aged and half starved, lay she cannot. All that is left to her own choice is, where she shall deposit her Egg, and she is sometimes so completely taken by surprise, as not to have her own way even in that. The poultry-keeper, therefore, has only to decide which is the more convenient; that his Hens should lay here and there, as it may happen, about his premises, or in certain determinate places, indicated to the Hens by Nest-eggs. It is quite a mistake to suppose that the presence of a Nest-egg causes a Hen to sit earlier than she otherwise would. The sight of twenty Nest-eggs will not bring on the hatching fever; and when it does come, the Hen will take to the empty nest, if there be nothing else for her to incubate. Any one whose Hens have from accident been deprived of a male companion, will agree with me in saying that they have not done so well till the loss has been supplied. During the interregnum matters get all wrong. There is nobody to stop their mutual bickerings, and inspire an emulation to please and be pleased. The poor deserted creatures wander about dispirited, like soldiers without a general. It belongs to their very nature to be controlled and marshalled by one of the stronger sex, who is a kind, though a strict master, and a considerate though stern disciplinarian. It does not appear what should make Hens lay better under such forlorn circumstances as are recommended in

the Perth paragraph. They will sit just the same, when the fit seizes them, and so will Ducks ; as may be seen amongst those cottagers who, to save the expense of barley, keep two or three Hens or Ducks only, and procure from a neighbour a sitting of Eggs, as they want them. It has been stated by Réaumur, who is a high authority, that clear or unfertile Eggs will keep good longer than those that would be productive ; but it is doubtful whether the difference is so great as to make it worth while keeping the Hens in a melancholy widowhood on this account. The most natural and least troublesome way of having a winter supply of Eggs, is to procure pullets hatched early in the previous spring, and to give them all they can eat of the best barley, or if expense be disregarded, of the finest wheat. But all people are not so nice about their Eggs, particularly during a long sea voyage.* For example, "It was upon one of the islands that I went on shore, and I found there such a number of birds, that when they rose they literally darkened the sky, and we could not walk a step without treading upon their Eggs. As they kept hovering over our heads at a little distance, the men knocked many of them down with stones and sticks, and carried off several hundreds of their Eggs. After some time I left the island and landed upon the main, where our men dressed and eat their Eggs, *though there were young birds in most of them.*"—*Commodore Byron's Voyage round the World.*

Eggs for hatching should be as fresh as possible ; if laid the very same day, so much the better. This is not always possible when a particular stock is required to be increased ; but if a numerous and healthy brood is all that is wanted, the most recent Eggs should be selected. Some books tell us that Eggs to be hatched should not be more than a fortnight, others say not more than a month, old. It is difficult to fix the exact term during which the

* "Much depends on taste in matters of this sort; and we once had a Londoner on a visit who "heaved the gorge" at the milk of new-laid Eggs, but ate Scotch Eggs with much satisfaction."—J. S. W.

vitality of an Egg remains unextinguished ; it undoubtedly varies from the very first according to the vigour of the parents of the inclosed germ, and fades away gradually till the final moment of non-existence. But long before that moment, the principle of life becomes so feeble, as to be almost unavailable for practical purposes. The chicks in stale Eggs have not sufficient strength to extricate themselves from the shell ; if assisted, the yolk is found to be only partially absorbed into the abdomen, or not at all ; they are too faint to stand, the muscles of the neck are unable to lift their heads, much less to peck ; and although they may sometimes be saved by extreme care, their usual fate is to be trampled to death by their mother, if they do not expire almost as soon as they begin to draw their breath. Thick-shelled Eggs, like those of Geese, Guinea-fowl, &c., will retain life longer than thin-shelled ones, as those of Hens and Ducks. Those who are anxious to secure a valuable variety, one chicken of which is worth a whole brood of ordinary sorts, will run all risks ; after seven or eight weeks their chance is not utterly gone. Some of the chicks will be found dead in the shell, but those that are hatched, if they survive the first eight-and-forty hours—the great difficulty —are not afterwards more weakly or troublesome than others. In the meanwhile air should be excluded from the Egg as much as possible : it is best to set them on end, and not to suffer them to lie and roll on the side. Dry sand or hard-wood sawdust (not deal, on account of the turpentine) is the best packing. But when choice Eggs are expected, it is more prudent to have a Hen waiting for them than to let them wait for her. A good sitter may be amused for two or three weeks with a few addle-eggs, and so be ready to take charge of those of value immediately upon their arrival.

Eggs sent any distance to be hatched, should be tightly inclosed in a wooden box, and arranged so as neither to touch each other, nor the sides of the box. An oyster-barrel answers excellently for a small number. Mr.

Cantelo, in his pamphlet, has recommended oats as a packing, and no doubt they form an excellent vehicle, taking little time to pack, filling all interstices, and moreover being useful at the journey's end. The Eggs should be shaken as little as possible, for fear of rupturing the ligaments by which the yolk is suspended in the centre of the Egg, and mixing the two strata of albumen surrounding it and letting the yolk loose. Nor should they be suffered to come in contact with any greasy substance that would close the pores of the shell, so as to exclude air from the chick. But my own experience of Eggs for hatching received from any long distance, is so utterly discouraging, as to forbid all future attempts, unless the parcel can be carefully brought by hand. However well packed, they get so recklessly knocked about by the superabundant strength and activity of the railway porters, who would handle a box of Eggs or a box of tenpenny nails in exactly the same manner, that at the end of a couple of hundred miles, and after shifting carriages three or four times, the germs of the Eggs are as completely destroyed by the concussion, as if they had been baked or boiled into custards. Mr. Cantelo advises, "should any valuable or rare Egg have a defect in the shell, it may be worth while to gum a piece of paper over the part affected, as it is through the extra-evaporation that it would otherwise fail in hatching." The following case, which has been communicated to me, is a practical commentary. "A Duck's egg was broken at the small end by a careless Hen when within a week of hatching. Perceiving that the inhabitant within was a fine lively fellow, I closed it over well with wax, and returned it to the nest. At the proper time the duckling came out lively enough, and proved the best of the brood." The same gentleman (H. H.) experienced another curious instance of difficulty in hatching. "A young pigeon was unable, for reasons best known to himself, to get more than his head and shoulders out of the egg. In this state he remained for days, the parts not growing, and the old birds still feeding

him! I released him afterwards, but he did not do nearly so well then, and soon died."

"After a Hen has sat a week, if you have a thin board with a small orifice in it, place a candle at the back, and hold up each Egg to the point of light; you will see at once whether the Eggs are fertile, when of course the others may be removed, and made use of hard boiled for young chickens. This hint I got from Mr. Cantelo's Exhibition, where the number of Eggs made it a great desideratum: but in any case it is much better to remove the bad Eggs."—*W. D. F.*

Now we are on the subject of hatching we may as well refer to the perplexity to which Poultry-keepers are sometimes subjected, when Hens *will* sit, at seasons of the year at which there is little chance of bringing up Chickens. Some advise the Hen to be soaked in a pail of water cold from the pump: but if they have a mind to kill her, it is more cruel to do so by giving her fever and inflammation of the lungs, than by simply knocking her on the head. A less objectionable remedy, communicated by a gentleman who is not likely to speak unadvisedly, is the following, of which, however, I have no personal experience. "I have known one or two doses of jalap relieve them entirely from a desire to sit; and in my opinion it is far better than the cold-water cure. I have known English Fowls lay in three weeks afterwards." But why not let the poor creatures obey their natural propensity? Or, surely, some neighbour would gladly exchange a laying Hen for one that wanted to sit. Others, borrowing an ancient piece of barbarism,* recommend a large feather to be thrust through her nostrils; that she may rush here and there in terror, and give up all thoughts of sitting. The person who would be capable

* "The inclination to hatch is prevented by thrusting a small feather through the nostrils." *Columella*, lib. viii., cap. 5. Pliny more humanely prescribes the same operation as a cure for the roup, "pituita." "A feather thrust through the nostrils, and moved every day:" a seton, in fact. Lib. x., c. 78.

of such cruelty, would properly walk arm-in-arm with the man who had tied a tin-kettle to his dog's tail. The wisest way is to guide, instead of thwarting the impulses of nature. Let your good Hen indulge the instinct implanted in her by a wiser Being than you: give her a sitting of Duck's or Goose's Eggs, and unless the winter be extraordinarily severe, you must be a bungler if you do not rear them by the aid of bread-crumbs, barley-meal, and a kitchen fire. The autumnal laying of the China, and also of the Common Goose, is very valuable for the purpose. It need only be remembered that too much confinement will give your Goslings the cramp. But it is better to take a little pains, than to be guilty of the above-mentioned cruelties, or to let the poor creature spend her vivifying energies on an empty nest. Turkey-hens frequently have this late fit of incubation, and on the Continent are much more used as general hatchers than they are with us. One which had been supplied with Duck's Eggs, hatched fifteen. As soon as she found out what sort of beings she had introduced into the world, she glanced at them a look of that ineffable scorn, which a Turkey's eye can so well express, strutted slowly away, and never would notice them more. The Ducklings, however, were reared in spite of her airs; the fire-side and their own innate vigour sustaining them under the excusable neglect of their haughty foster-mother. One of mine chose to sit on some of her own Eggs in the middle of a turnip field at the end of October, 1847. This would never do; so we brought her home, and set her upon seven Eggs of the Common Goose in a warm out-house. She hatched six birds, one of which was killed by accident. The remaining five she reared with the greatest affection. A little ordinary care, with a liberal supply of endive, cabbage-leaves, and other garden refuse, and in time also, of barley, thus furnished us with a welcome lot of early Geese.

However it *is* sometimes inconvenient for townspeople to have Hens wanting to sit unseasonably. Mr. Bissell

says, "I have been sadly troubled in this way, and have tried almost every known method of getting them to forsake their nests, when I have not wanted them to sit, but without the least effect, until about two years ago I tried the simple plan of placing them in an aviary for about four or five days at most, and feeding them but sparingly, when they will, from the commencement of their confinement, gradually leave off clucking, and when they have done so, you may again set them free without the least fear of their wishing to take to the nest again; and besides getting rid of a great deal of trouble with them, they will in a very short time commence laying again with renewed vigour." Keeping a Hen out in a coop on the cool grass for three or four days and nights has a similar tendency to abate the hatching fever.

One of the most extraordinary feats of hatching on record, is that performed by Pliny's Syracusan drunkard, under whom, as he lay enjoying himself on the ground, some Sicilian wag slipped a sitting of Eggs, which at the proper time became Chickens.

Monstrous and misshapen Eggs are not uncommon. They are to be seen in most collections; and an Oologist of ordinary experience would be less puzzled by them, than by unexpectedly meeting with the Egg of a tortoise. They have given rise to several absurd opinions, the oldest of which is a belief in "Cock's eggs," abortions of very small size, sometimes properly shaped, sometimes spherical, and sometimes contracted in the middle like an hour-glass, with a thick shell and little or no yolk. We had a Hen, that laid one every day, till we put a stop to the practice, by eating her. Similar *lusus* have also been produced by the thrush, the linnet, the robin, and the plover. Country-people think "Cock's eggs" unlucky, and commonly destroy them when they find them; the effectual way to have better luck with Eggs would be to destroy the "Cock" that lays such unmarketable articles. Diseased ovaries are their undoubted cause, followed frequently by the assumption of the manners,

and even of the plumage of the male. Such a change gives plausibility to the popular notion of Cocks laying Eggs, which is not yet exploded among the rustics. Whether it was an old form of speech or grounded on any vague belief of the sort, Martin, before quoted, speaking of the number of Eggs laid by the Fulmar, uses the masculine gender throughout; thus, "he picks his Food out of the Back of live Whales; they say he uses Sorrel with it, for both are found in his Nest; he lays his Egg ordinarily the First, Second, or Third day of *May;* which is larger than that of a *Solan* Goose Egg, of a White Colour, and very Thin, the shell so very tender that it breaks in pieces if the Season proves Rainy; when his Egg is once taken away, he lays no more for that year, as other fowls do," &c., p. 55.

In the days of ignorance, people were now and then thrown into consternation by the appearance of Eggs marked with inscriptions or symbols, in relief, or intaglio. But the evidence of their having been laid in that state is so utterly wanting, and the chemical means of fabricating them so simple, that it is needless in these times to enter further into the matter. Shell-less Eggs may be attributed, partly, to the want of a sufficiency of phosphate of lime in the food of the Hens, and sometimes to over-irritability in the Egg-organs, analagous to that which, in the Mammalia, causes abortion.

Another strange, but unsupported belief, or dream, which I must think originated in a joke, or *cram*, from which imputation, the weight of Aristotle's authority does not relieve it,* is the notion that there are Hens in exist-

* "Some domestic Hens, also, bring forth twice in the day; and some, after having been very prolific, have died in consequence;"—*History of Animals*, Book vi., c. 1.—as they do now. "I am very averse to any means being used to force Hens to lay, (such as mingling cayenne-pepper, &c. with their food,) as it induces premature decrepitude. I am continually finding Fowls suffering from dropsy, which I attribute to this cause. I have taken from a Hen two bags of clear water containing a quarter of a pint, and dissection proved their connexion with the ovarian system."—*John Baily.*

ence that habitually lay more than one egg a day. One author says, there are Hens wild in Sumatra that lay three Eggs in a day; but he omits to state who watched these wild Hens to and from their nests. Another (Richardson) describing the Cochin China fowl (2nd Edition, p. 38,) says, "they are very prolific Hens; Mr. Nolan's frequently laying two, and, occasionally, three Eggs on the same day, and within a few moments of each other." The statement is confirmed by Irish Arithmetic. "One of the Hens," he continues, "Bessy, exhibited by her Majesty, laid 94 Eggs in 103 days,"—not quite three Eggs a day, according to our "calcule." But if this be a fact, there is no limit to the improvement, of which these double-barrelled Hens are capable, till by the aid of forcing and extra diet, they become, like Mr. Perkins's steam gun, able to discharge Eggs at the rate of several dozens in a minute.

Seriously, it is quite true that the Hen, like other creatures that usually produce but one at a birth, has an occasional tendency to produce twins; but I believe it will be found that such twins hitherto observed, *have been united in one shell, and not produced separately.* Double-yolked Eggs are well known to cooks, and to farmers' wives. Some with triple yolks occur now and then, but rarely. Twin chickens may have rarely proceeded from one Egg. The classic fable of Castor and Pollux looks like some such experience among the ancients; but those Eggs, being oversized, are usually rejected for hatching, and I remember no really authenticated instance of the kind, unless the reader be good-naturedly disposed to accept a case from Aristotle as such. However, his idea of twinning in Hens evidently coincides with ours, in spite of his having asserted that some fowls lay twice a day. "Double Eggs, however, have two yolks, which sometimes, that they may not be confounded, are separated by a thin interstice of the white; and sometimes the two yolks are in contact with each other without this interstice. There are, also, some Hens that bring forth all

their Eggs double, so that in these also, the above-mentioned circumstance happens respecting the yolk. For a certain Hen having brought forth eighteen double Eggs, disclosed a chicken from each, those Eggs excepted which were unprolific. Two chickens also were disclosed from each of the double Eggs, but one of the chickens was larger than the other. But the last chicken that was disclosed was a monster."—*History of Animals*, book vi., chap. iii.—*Taylor's Translation.*

The following is a plausible, but by no means a convincing case. "At Monklaw, near Jedburgh, there was a Duck which laid two Eggs in a day. The fact was proved by locking the bird up, when one egg was found early in the morning, and another in the evening. This remarkable Duck was killed by a servant ignorant of its virtues."—*Note to White's Natural History of Selbourne*, Captain Brown's Edition, p. 291. Now Mowbray says, "the Duck generally lays by night, or early in the morning, seldom after ten o'clock, with the exception of chilling and comfortless weather, when she will occasionally retain her Egg until mid-day, or the afternoon." Suppose then that the confined Duck, exercising her power of retaining her Egg (a faculty often obstinately used by the Turkey-hen, if it be desired to make her lay in other places than she chooses),—suppose the Duck had laid one, say at two in the morning, and another at ten in the evening of the same day, that could scarcely be called "laying two Eggs a day," unless the confinement had continued, and the same productiveness been manifested for several days in succession. It is here that proof *of the habit* fails.* Now in regard to the other mode of

* The subjoined statement is from a friend on whose strict veracity I can quite rely. "In the summer of 1849, I had a Cock and Hen Malay. I kept them in a house with a little yard attached to it, and am certain that no other Fowls could get to them, as the whole was netted over. I have no other prodigy to tell of this Hen (which was a bad layer before the occurrence, and not a layer at all since it) but that she layed four Eggs within forty-eight hours. Thus: on Thurs-

twinning, the same Editor quotes a correspondent in Loudon's Magazine of Natural History, who says, "I have lately seen a preternaturally large, but perfect Goose's Egg, containing a smaller one within it; the *inner one possessing its proper calcareous shell.*" This is certainly a very singular production. "We have frequently known shells to have two yolks, but this is the only instance we have met with of one Egg containing another entire one within it." Other instances, however, are known. A gentleman in my neighbourhood possesses one, if not two Hen's Eggs, each of which contains within itself another smaller Egg with a perfect and complete shell; confirming the statement that twins, in the case of Eggs, are inclosed in one common envelope, and not produced one immediately after the other, as in mammalia.

Mr. Alfred Whitaker says, "I find no room for criticism in your manuscript. Every fact asserted is borne out by my own experience, with the exception that I never saw an instance of one Egg containing another

day evening at six o'clock there were no Eggs; the next morning there were two; on Saturday morning there was one more; and on Saturday evening before six o'clock another Egg was layed. Now this was laying four Eggs certainly within forty-eight hours, but it may have been within a still shorter space of time. I could not be mistaken respecting the Eggs, because I then had only two mongrel Hens which layed very taper Eggs, and some S. Hamburg Hens which layed purely white Eggs, whereas the Malay layed very large and yellow ones; her Eggs were likewise of a peculiar shape, all of them having a small indenture or mark round them just about the middle. If all the Hens had been kept together in one poultry-yard, I should have had no more doubt as to which laid the Eggs in question, than I have now. I have told perhaps half-a-dozen people of the circumstance, but have reason to think that nobody believed me; and this, added to the opinions expressed in your book, would certainly have prevented me from sending you the above account, but that I am perfectly convinced of its correctness. I kept the Hen for three months after this occurred, and fed her upon corn, green food, with meal now and then, but she never laid another Egg whilst I had her." *G. P. S.* I can only suppose this to be a case of retention of the Egg from disease, or other cause, and is quite the contrary to being an instance of unusual fecundity.

entire Egg within it. Double Eggs I have frequently seen. Their size, and frequently a sort of suture across and around the centre of the Egg, sufficiently indicate their twin nature. Many years ago (in my boyhood) I placed one of these double Eggs among a sitting of Eggs under a Hen. Two live chickens were brought up to the hatching point, but that labour appeared to be too much for their somewhat divided strength, and they were not actually born alive. The fact, however, shows that the Egg in question was a perfect twin Egg." This is a very remarkable case, and deserved preservation in a Museum.

"The umbilical part of Eggs is within them from the top, as it were a drop projecting inside the shell."—*Pliny*, lib. x., c. 74. This evidently has reference to the air-bubble. But I am in possession of an Egg of more than ordinary size, laid by a Buenos Ayres Duck, which has one end enclosed, terminating in a sort of membranous funnel, or a continuation of the lining membrane of the shell, giving the appearance of a divided umbilical cord.* An instance which is not unique. "On the day after my return from London, I was looking round my farm-yard, and found a fresh nest in a calves' stage with one egg in it. On taking it up my servant said, 'Here is something curious,' and I observed that the Egg was evidently double, and that a small portion of the large end of the shell was soft, and that from the centre of the soft part, a membranous substance was protruding, looking like a dried up umbilical cord. I opened the egg carefully, and found that this cord was attached to an oval sac within, of a dark colour, filling half the Egg, and that below this there was a perfect yolk. I took out this sac with the cord attached to it entire, and put it at once into spirits of wine. My surgeon, who is quite a naturalist and a very scientific man,

* "The stalks of Eggs, whereby they grow to the *ovarium*, are not solid after the manner of the footstalks of fruits, but hollow and fistulous."—*Willughby*.

was much interested with it. His impression was, that the sac contained a chick, and that incubation had been going on in the cloaca of the mother."—A. W.

As a tail-piece to this chapter may be mentioned the use of Eggs for adornment of the person. Mr. *Martin Lister*, of *York*, saith, "The *Curruca* or *Hedge-Sparrow* lays sea-green or pale-blue Eggs, which, neatly emptied and wired, I have seen fair ladies wear at their ears for pendants." To fair-haired, clear-skinned maidens, they would be especially becoming; encased in gold filligree of Genoa, they might pass for turquoises of high price. The fanciful decorations of a bandeau of pearly shells, a flounce filled with fire-flies, and a necklace of Curruca turquoise, only require a beautiful wearer to set them off to the greatest advantage.

So much about Eggs for the present. People have often been astounded by the phenomena of latent heat; a greater marvel is the fact of latent life.

THE DOMESTIC FOWL.

"I might be infinite should I prosecute at large all that might be said of this bird, or write a full, exact, and particular history of it. If any reader desires to know more of it, let him consult *Aldrovandus*, whose design was to omit nothing in his History which was either known to himself or had been published by others."—WILLUGHBY, p. 156.

IT has been the fate of Aldrovandi both to be plundered most unmercifully, and to be disrespectfully spoken of by the majority of his plunderers, on the subject of Poultry at least; that is, by those who have robbed him at second hand, because they were either too indolent or too unlearned to labour through a heavy Latin folio. But if he did sometimes take the wrong turn in hewing his way through the dense unexplored forest that opposed his progress, it is not magnanimous in us to sneer at him, who have the Penny Cyclopædia, the Zoological Society, and the British Museum to refer to. His works are a monument of skill and enterprise; and as an Encyclopædia of Natural History, as far as it had advanced at the close of the sixteenth century, are of great value to those who can make the misapprehensions, as well as the correct conclusions of their predecessors, subservient to the advancement of science. It is now nearly two hundred and fifty years since "*Aldrovandus* his Book" was published, and, in the meanwhile, much fresh information has been collected, much error swept away; but on many important points, particularly those respecting theory, we are still no wiser than our forefathers.

What is the earliest date of Poultry-keeping? Nobody knows. My own belief is, that it is coeval with the keeping of sheep by Abel, and the tilling of the ground by Cain—a supposition which cannot be far from probability if there is any foundation for the legend that Gomer, the eldest son of Japhet, took a surname from the Cock. Indeed, it would be to him that Western Europe stands indebted for a stock of Fowls from the Ark itself. For, it is supposed by the erudite, and shown by at least probable arguments, that the descendants of Gomer settled in the northern parts of Asia Minor, and then spread into the Cimmerian Bosphorus and the adjacent regions, and that from them the numerous tribes of the Gauls, Germans, Celts, and Cimbrians descended. It is true that there is no mention of Fowls by name in the Old Testament, except a doubtful allusion in the Vulgate translation of the Book of Proverbs (xxx. 31), which is lost in the authorised version; the Hebrew word translated "gallus" in one place being rendered "greyhound" in the other: "Gallus succinctus lumbos; et aries: nec est rex, qui resistat ei:" "a greyhound;" (some think the *war-horse* was meant), "an he goat also; and a king, against whom there is no rising up." It will be seen that the Latin and the English by no means run parallel to each other. There is another equally disputable passage in Ecclesiastes xii. 4: "And the doors shall be shut in the streets, when the sound of the grinding is low, and he shall rise up at the voice of the bird (*i.e.* at Cock-crowing) and all the daughters of music shall be brought low." Both passages are quoted by the Rev. Mr. Pegg in his curious paper on Cock-fighting, in the Archæologia, vol. iii. A still less certain reference occurs in the Book of Job, xxxviii. 36: "Who hath put wisdom in the inward parts? or, who hath given understanding to the heart?" running thus in the Latin: "Quis posuit in visceribus sapientiam, vel quis dedit gallo intelligentiam?" which is commented on by St. Gregory, and the word "gallus" spiritually interpreted, as having reference to those earnest preachers who

rouse men from the slumber of sin, and cry aloud that the night is far spent, the day is at hand.

In our English version, "fowls" as articles of provision are mentioned at 1 Kings, iv. 23, and again at Nehemiah, v. 18. Unfortunately, even Hebrew scholars often find a difficulty in fixing upon the animals intended by certain Hebrew words. On referring to the Septuagint translation of the Old Testament into Greek, I find that, in the passage in Kings, the words rendered in our version "fatted fowl" are literally "*birds*, select fatted ones from the select." But in Nehemiah, instead of the "fowls" of our translation, the Septuagint reads, "a goat." So that, though we do not doubt that Cocks and Hens were domesticated in those early ages, and before them, still the special mention of them by name in the Old Testament may be considered as doubtful. It is curious that several creatures with which we may believe that the ancient Egyptians must have been acquainted, are quite omitted from their paintings and sculptures. Thus, there seems to be no representation of Pigeons, or of Camels in their tombs or temples: whereas other things, which we should have less expected to find, as a flock of *Domestic* Geese, are depicted with great accuracy. I have been anxious to find portraits of some of the *Fancy* Pigeons upon ancient monuments, but cannot, though I have found mention of several in ancient literature.

The apparent omission of the name of the Domestic Fowl from the Old Testament may possibly have arisen from this cause, namely: that tending them would be the occupation of women, whose domestic employments are less prominently brought forward by Oriental writers than the active enterprises of men; and also, that the birds specially named there are the unclean birds, which are to be avoided, whereas those which may be eaten are classed in a lump as "clean." See Leviticus, xi. 13, and Deuteronomy, xiv. 11. "Of all clean birds ye shall eat. But these are they which ye shall not eat; the eagle, and

the ossifrage, and the osprey," &c. Turtle-doves and young pigeons are only mentioned as objects of sacrifice, not as articles of food.

Aristotle, who wrote about 350 years before Christ, speaks of them as familiarly as a natural historian of the present day would. It is unnecessary more than to allude to the beautiful comparisons taken from them in the New Testament. The Roman authors of the commencement of the Christian era recorded that they were classed into such a number of distinct varieties as could only have been the result of long cultivation. Whether we suppose that different breeds were collected and imported from different native stations, or assume that the differences of those breeds were the artificial result of domestication,—whichever case we take, Domestic Fowls must have been held in familar esteem for many, many ages before we have any clear record of them. Either supposition attaches to them a highly interesting and quite mysterious degree of antiquity. Even in our own country they appear to have existed at a time and in a state of society when we should least have expected to find them. "The inland parts of Britain are inhabited by those whom fame reports to be natives of the soil. . . . . They think it unlawful to feed upon hares, *pullets*, or geese; yet they breed them up for their diversion and pleasure."—*Cæsar de Bello Gallico*, lib. v. cap. xii., *Duncan's Translation*.

Dr. Kidd, in his Bridgewater Treatise, doubts whether the Camel ever existed in a wild and independent state. We do not go quite so far as that in scepticism in the case of Fowls, but still believe that those who, at this epoch, hunt for Cocks and Hens of the same species as our tame ones, either on the Continent of Asia, or throughout the whole inhabited vast Indian Archipelago, will have undertaken but a fruitless search. For certain writers have been at great pains for some years past, with but little success, except in their own conceit, to pitch upon the wild origin of our Domestic Fowls. The first

decided attempts appear to have been made by Sonnerat, and to have been followed up by succeeding French writers, whose errors are glaring, and in whose praise little can be said. Réaumur, whose writings are really philosophical and valuable, devoted his inquiries to more practical objects, but Sonnerat was merely a blind leader of the blind, if there is justice in the criticism of Mr. Swainson, who pronounces that "Sonnerat's works (Paris, 1776 and 1778), although often cited by the French authors, are very poor; the descriptions vague, and the figures, particularly of the birds, below mediocrity." Buffon, who did not die till 1788, had therefore an opportunity of adopting Sonnerat's Jungle Fowl as the parent of Cocks and Hens, and his vivid imagination made him very likely to have adopted so apparently clear an account, ready telegraphed for his reception. But instead of that, he speaks hesitatingly and doubtfully of the derivation of our Domestic Fowls from Wild Cocks, and seems to despair of indicating their origin. He says, "Amidst the immense number of different breeds of the gallinaceous tribe, how shall we determine the original stock? So many circumstances have operated, so many accidents have concurred: the attention, and even the whim of man have so much multiplied the varieties, that it appears extremely difficult to trace them to their source."

Those authors who, by a pleasant legerdemain, so easily transform one of the wild Indian *Galli* into a Barn-door Fowl, — who put the Jungle Cock, the Bankiva Cock, or the Gigantic St. Jago (?)* bird under a bushel,

* St. Jago, one of the Cape de Verd islands, may furnish wild Guinea Fowl, but scarcely wild Cocks. The "Gallus Giganteus," the great "St. Jago Fowl," is the offspring of an absurd misquotation from Marsden, which has run the round of most compilations. *Jago*, the native Sumatran or Malay word for a particular breed, has been mistaken for "St. Jago," the name for an island. Marsden was well acquainted with his subject, and there is nothing like referring to an original authority.

"There are in Sumatra the domestic Hen (*ayam*), some with black bones, and some of the sort we call Freezland or Negro fowls; Hen or

hocus pocus a little, lift up the cover, and then exhibit a veritable Chanticleer—write as if they had only to catch a wild-bird in the woods, turn it into a court yard for a week or two, and make it straightway become as tame as a spaniel.* On such a notion comment is now supererogatory. For a difficulty which speaks volumes, is, that those birds which have been pointed out as the most probable ancestors of the Domestic Fowl, do not appear to be more tameable than the Partridge or the Golden Pheasant; moreover, so remarkable an appendage as the horny expansion of the feather-stem, as seen in Sonnerat's Cock, would, according to what is generally supposed to take place, be increased rather than diminished and obliterated by domestication; and even if got rid of by any course of breeding for a few generations, would be sure ultimately, to reappear. Now, in some races of Fowls known only to the moderns, or at least not recorded, we observe feathered crests showing an affinity with the Lophophori, the Pea Fowl, and perhaps distantly with the Curassows; in others, certain Bantams, for instance, we find the feet and legs covered with feathers, indicating

the woods (*ayam baroogo*); the *jago* breed of fowls, which abound in the southern end of Sumatra, and western of Java, are remarkably large; I have seen a Cock peck off a common dining table: when fatigued, they sit down on the first joint of the leg, and are then taller than the common fowls. It is strange if the same country, Bantam, produces likewise the diminutive breed that goes by that name."—*Marsden's History of Sumatra*, p. 98.

* The Mute Swan is thus made to be descended from the Hooper. "It has always had more attention paid it than its fellow subjects; it has never been kept captive (?); it has been destined to adorn the pieces of water in our gardens, and there permitted to enjoy all the sweets of liberty. The abundance and the choice of food have augmented the bulk of the Tame Swan; but its form has lost none of its elegance; it has preserved the same graces and the same freedom in all its motions; its majestic port is ever admired: *I doubt even whether all these qualities are found to equal extent in the wild bird.*" *M. Baillon, quoted by Buffon.* Just so we may manufacture Donkeys from Wild Asses, Pigs from Peccaries, Dunghill Cocks from Jungle Fowl, nay, why not Men from Monkeys? See the "Vestiges of Creation."

some approach to Ptarmigan and Grouse; the Silky Fowl has a plumage akin to that of the Apteryx and the Cassowary; but in none do we see anything like the bony plates in the plumage of Sonnerat's Cock. A bird with this peculiarity, either in the hackle, or in the wing, after the fashion of the Bohemian Chatterer, would be the greatest curiosity that a London dealer could produce.

Still, our own Cocks and Hens must have had some progenitors, and if I may venture to offer an opinion, it is this; that the *wild* race, that which once ranged the primæval woods and jungles, unsubdued by man, is now extinct, for ever gone, with the Dodos and the Deinornithes. Such an idea quite agrees with what we now see going on in the world. At no very distantly future time, the Turkey will be in exactly the same position in which I am supposing our Cocks and Hens to be now placed. The race will continue to survive, only from having submitted itself to the dominion of man. Wild Turkeys are becoming every year more and more scarce in America, and as population increases, and penetrates deeper into the wilds, till the whole face of the country is overspread, occupied, and cultivated, the Turkey in the New World must share the fate of the Bustard in England, and where shall we find *it* then, except under the same circumstances as we now see our Domestic Fowls?

How long existing literature will endure it is impossible to speculate; but should it be swept clean away by any social convulsion, our descendants, two thousand years hence, will have as much difficulty in determining the origin of the Turkey, as we have in deciding upon that of the Cocks and Hens. At a later point of time than that predestined for the disappearance of the wild Turkey, but one equally inevitable, the last surviving specimens of the Emeu and the Kangaroo, will be such as shall be reared in captivity, for the gratification of the wealthy or the scientific. Man has the power of trampling underfoot, and sweeping every living thing before him in his progress; but in some cases, at least, he is likely, for his

own sake, to rescue the most valuable part of the spoil from destruction, if it will only submit to be rescued, and not refuse to accept a continued existence on such conditions. A family of savages would soon consume and destroy a whole province full of wild Cocks and Hens, were it never so well stocked; but civilised Man can see his interest in their preservation, and it is lucky for Fowls that their destiny threw them in contact with the Caucasian race instead of Australian aborigines. But the increase of knowledge and humanity may even yet do something to extend a merciful and forbearing conduct towards existing animals. Had the Dodo survived to these days, it might perhaps date a renewed term of existence from the day that it was subjected to confinement in a menagerie. Now the utter destruction of the Dodo appears, if we think of it, to have occasioned a great loss to mankind: it might have proved a valuable addition to our live stock. It was a gallinaceous, or rather a columbine bird, covered with fine down. That its flesh was good is proved by the fact of the whole race having been eaten and consumed in so short a time, though there do seem to have been two opinions, some preferring Turtle-dove to Dodo. Its weight (fifty pounds) made it of importance; its unwieldiness and inability to fly (being an *avis* not a *volucris*) made it easy to confine. It was said to lay numerous eggs: but if it produced only two or three young in the year, it was at least as prolific as the Sheep. We do not find it stated what was the food of the Dodo. Its strong scratching feet, powerful digestion, thick neck, and enormous beak, seem to indicate that roots might be its main sustenance. Let us hope that the beautiful Honduras Turkey will not be permitted to be extirpated in like manner.

The size, inactivity, and sluggishness of such creatures as these are the main cause of the extinction they are undergoing as wild races; but the common Hen has one peculiar habit, which would alone ensure the destruction of her progeny in an unprotected state, in spite of all her

fruitfulness and her great maternal virtues. Her delight at having laid an egg, expressed by loud cackling, which is joined in by all her companions that are at hand, would, by itself, be sufficient to prevent much increase of her young. The Latin writers called the cry *singultus*, or sobbing, as if she had suffered pain; the notice thus given of her delivery was equally public at that distance of time as now. How the squaws and their picaninnies would chuckle to have wild birds abounding around them, that not only produced an excellent egg every day, but told them where to find it! But without going into the wilderness, either east or west, what would become of the larger ground-nesting birds in England, the Water-hen, the Wild-duck (what has become of the Bustard?), if they were not as silent and stealthy in depositing their eggs, and leading forth their young, as the Hen is noisy and obtrusive? Even Le Vaillant's ape "Kees" could learn to listen for the cacklings of his master's Hens, and steal their eggs.

The habit which so large a bird as the Fowl has of retiring to roost by daylight, and composing itself to repose before it is hidden and protected by the shades of night, would also be a certain source of danger in a wild state. The craving hunter who wanted a meal, need not fatigue himself by a search during the noontide heats. He would have but to bear the pangs of appetite till evening approached, and then stealing with no great caution under the outstretched branches, he would find a ready prey distinctly apparent between himself and the ruddy glare of sunset. No wild race could survive a few years of such facile, such tempting capture. Those who would reply by saying that when Cocks and Hens were wild they had not fallen into the imprudent fashion of roosting before dark, and cackling when they dropped an egg, beg the question which we are not disposed to grant them, unless they can positively establish their claim.

The antiquity which I thus assume for our existing race of Cocks and Hens may perhaps startle some readers;

but hear Professor Owen on other analogous cases: "It is probable that the Horse and the Ass are descendants of a species of pliocene antiquity in Europe. There is no anatomical character by which the present Wild Boar can be distinguished specifically from that which was contemporary with the Mammoth. All the species of European pliocene *Bovidæ* came down to the historical period, and the Aurochs and Musk-ox still exist; but the one owes its preservation to special imperial protection, and the other has been driven, like the Rein-deer, to high northern latitudes. There is evidence that the great *Bos-primigenius*, and the small *Bos-longifrons*, which date, by fossils, from the time of the Mammoth, continued to exist in this island after it became inhabited by Man. The small short-horned pliocene Ox is most probably still preserved in the mountain varieties of our domestic cattle. The great Urus seems never to have been tamed;" note this: "but to have been finally extirpated in Scotland. Of the Cervine tribe, the Red-deer and the Roe-buck still exist in the mountainous districts of the north; but, like the Aurochs in Lithuania, by grace of special protective laws."—*British Fossil Mammals and Birds*, Introduction, p. xxxii.

But if our domestic Fowls were thus early called into existence, where are their fossil remains to be found? The probabilities are against our finding them at all. We can hardly expect them in any oceanic deposit; and "extremely rare," says Professor Owen, "are the remains of birds in the fresh-water deposits, or marine drift of the newer pliocene period, which so abound in Mammalian fossils. The light bodies of birds float long on the surface after death; and for one bird that becomes imbedded in the sediment at the bottom, perhaps ninety-nine are devoured before decomposition has sufficiently advanced to allow the skeleton to sink."—*Id.* p. 557. It would probably be in their supposed original Asiatic home that any successful search would be made; but we ought not to be disappointed if none are discovered even

there. Dr. Buckland, in his *Reliquiæ Diluvianæ*, mentions twenty-two localities of the remains of antediluvian animals, and in only three of them are relics of Birds found.

It certainly has long been thought that our domesticated creatures, beasts as well as birds, must necessarily be descended from some wild stock, which still exists in an untamed state. This *petitio principii*, this begging of the point at issue, has unquestionably led to wrong conclusions, and left a host of naturalists, particularly œconomical writers, planted in the midst of difficulties which are still unexplained. Where is the wild origin of the sheep, or of the goat, to be found? Some say here, some say there, some fix on this species, some on that, and the reader ends by "giving it up." But take the simple theory that many of our domestic animals are the survivors of extinct races, survivors because domesticable, of extirpated, because defenceless creatures, and the difficulties vanish, and become reconcileable with what we see around us. All those species which have of late become, or are likely soon to become extinct, disappear because they refuse to be subjugated by man; for example, the yet untamed Aurochs of Lithuania, which still survives only by virtue of strict protective laws enforced by the Emperor of Russia, and which has had all the time from the epoch of living Mammoths to the present day, to become softened in disposition, but still refuses to hear the voice of the charmer. In some few sad instances, principally of birds, the work of extermination appears to have been completed before any fair experiment had been tried, as with the Dodo and the Kivi Kivi. Other species, on the contrary, as the Turkey, will probably long survive the utter disappearance of their wild progenitors, solely on account of having submitted with a good grace to the dominion of Man. One of these, the Cereopsis, seems likely to owe its rescue to the happy exertions of the Zoological Society, which thus becomes an ark of refuge amidst the flood of population.

We may here, perhaps, be permitted to look forward a little, and without being accused of extravagance, speculate on the future destiny of still surviving tribes of animals. If we take what has already occurred during "this present infancy of the human race," as any indication of what must inevitably happen when the whole earth shall really by us be overspread, it is clear that all flesh-eating ravenous animals, except the smallest and most insignificant, must retire from the face of this planet; the Lion, the Tiger, the Puma, and the Jaguar, rivals to Man in their carnivorous propensities, must, as he becomes pressed for subsistence, yield their prey to him, and perish. Man must become the great dominant Carnivore; the butcher will fulfil the office of the Felidæ, in keeping the herbivorous races within due limits. And of them, those which obstinately refuse to enter the pale of human society, must eventually quit the scene where he plays the first part. Roebucks, Antelopes, and Bisons, will become evanescent.

But encroach as he will, Man cannot occupy the Seas. Myriads of free Oceanic creatures will defy both his powers of destruction and his yoke. And it is probable that the earliest representatives of the Vertebrata which preceded his reign, will be among the very last to yield to his exterminating influence.

The Common Cock, the *Gallus Gallinaceus* and Αλεκτωρ of the ancients would, at first sight, appear to have received one or two remarkable changes of form subsequent to its having been saved from annihilation by becoming dependant on the care of Man, if we can believe domestication to be capable of producing such changes. The crest of feathers on the head is an extraordinary metamorphosis to have occurred from an original fleshy comb. There is no yet discovered instance, that I am aware, of any wild crested breed. Aristotle makes such a pointed and so clear a distinction between the feathered crests of birds in general, and the combs of cocks, as to lead to a strong suspicion that he was unacquainted with

Fowls with top-knots; which he could hardly have avoided seeing in the course of his unequalled opportunities for research, had they existed in his day; "certain birds have a crest; in some consisting of actual feathers; but that of Cocks alone is peculiar, being neither flesh, nor yet very different from flesh in its nature."—*Hist. Anim.*, Book ii., Chap. xii. towards the end.

I can find no passage in the classical authors which implies that the Cocks and Hens of their day bore a feathered top knot. The Latin *crista* is at least an ambiguous word. If it occasionally means a plumed crest like that of the Hoopoe, it is also most pointedly used for a fleshy comb. Pliny, Lib. xxvii., chap. 93, says "The Alectorolophus (a plant), which with us is called *Crista*, has leaves like a Cock's comb." This passage may not be considered conclusive; because although the Cocks-comb is a remarkable and striking plant, he might intend to describe some other herb which bore tufts or tassels. But in describing the Phœnix (Lib. x., chap. 2), he mentions that "it is adorned with wattles (using the same word that he does to express the comb) on its throat, and a feathered top-knot on its head." But further on he puts the interpretation of the word beyond all doubt. "Messalinus Cotta discovered the method of cooking the web of Geese's feet, and fricaseeing them in small dishes along with Cock's combs."—Lib. x. c. 27. Not even the Romans would think a tuft of feathers any great delicacy; and a dish of Cock's combs is one of the few things in which modern taste coincides with theirs. The Latin *crista* must not, therefore, be translated by the English *crest* when it has reference to Cocks and Hens. *Cirrus* is the Latin word used by Pliny to denote the tuft of feathers on the head of certain Ducks (*fuligulæ*), and also properly adopted by Aldrovandi to express the top-knot of Polish Fowls. Theocritus calls the Cock Φοινικολόφον. We know something about the red combs, but nothing of the red crests of Fowls.

There is a passage in Ælian, which at first sight would

appear to contradict the notion that the ancients had no top-knotted fowls, but which, in fact, strongly confirms it.

"And (in India) Cocks are produced of the greatest size, *and they have a comb which is not red like those of our fowls*, but variegated like the corolla of flowers; and they have their rump-feathers *not curved*, nor twisted into screws (as in the bird of Paradise), but broad; and they drag them after them, like Peacocks, when they do not erect them and set them up; and the colour of the feathers of the Indian Cocks is golden and cærulean, like the stone smaragdus."—Lib. xvi., c. 2. The smaragdus was the emerald; a metallic lustre is clearly indicated. That the bird in question was not the *Gallus Gallinaceus* is certain, from the absence of the sickle feathers in the tail. What it was, is not our bounden duty to decide. It is not, moreover, stated that the λόφος, though variegated, did consist of feathers. It might have been a helmet, like that of the Guinea-fowl. The earliest notice of Crested Fowls that I am aware of, occurs in Aldrovandi; one of which sorts is "our common country Hen, all white, and with a crest like that of a lark," a very useful comparison that will serve to distinguish such-like from the Polish Fowls; the other, what he calls the Paduan, evidently a variety of the Polish or Poland.

If birds with such peculiarities were unknown to the ancients, it will be asked through what agency they have made their appearance in our days. Are they new species, the result of clever combination and nurture, or of mere chance? Not conceiving that they are anything new under the sun, although long unknown to us, I answer at once, No. The mercantile enterprise and trading voyages of the English, Dutch, Spaniards, and Portuguese, are quite sufficient to explain their arrival, without having recourse to a new creation. It is strange that any new or remarkable breed, like Sir J. Sebright's Bantams, or the Duke of Leeds' Shackbag, should invariably first appear in the poultry-yards of the wealthy, and not in the homestead of the small farmer or the cottager. The lately

introduced Cochin China Fowl, about which there is no mystery, and of which her Majesty has just reason to be proud, is a case in point. But it is not strange or unlikely that gentlemen who have succeeded in obtaining some exotic variety, should choose to conceal the source and the channel by which it came into their hands, or even take credit for having themselves raised and generated a breed which excited the curiosity and admiration of their neighbours. There are several varieties that are extinct, or not to be obtained in this country, as the above-mentioned Duke of Leeds' Fowl, and the White Poland Fowl with a black top-knot. Attempts have been made to reproduce them, both by the most promising systems of crossing, and by acting on the imagination of breeding Fowls, after the manner of Jacob's experiments with Laban's flocks; all in vain. We can easily understand how certain points in any race can be confirmed and made more conspicuous by selection and breeding in and in, but we are at a loss to know how to go to work to produce something quite original and new. If these lost varieties do re-appear, and they are both worth the trouble they may give, it will probably be by a fresh importation from their original Indian home.

The head-quarters of Domestic Fowl at the present day are the islands of Java and Sumatra, and the Malay Peninsula, a vast extent of but partially explored country, seeing that the area of this last alone is very little less than that of Great Britain. But the prospects opened to natural history by Sir James Brooke's occupation of Borneo, and his gradual pacification of the enormous Oriental Archipelago by the suppression of piracy, are scarcely appreciable at this early period. According to the Quarterly Review (July, 1848), no regions of equal extent on the surface of the globe supply equally rich and varied materials for commerce, ranging from gold and gems of the costliest kind, down to the humblest necessaries of daily life. Throughout the whole twelve thousand islands, at almost every step towards the interior,

we have discovered some new article of merchandise, some valuable kind of timber, some odoriferous gum, some species of root, or fruit, or grain, not yet included in the catalogue of human food, some rich mineral or vegetable dye, calculated to improve the beauty of our European fabrics ; and yet we have hitherto scarcely stepped beyond the threshold of Borneo, Celebes, Palāwan, Magindanão, or New Guinea. All beyond the mere fringe of the coast is unknown ; though rivers of great breadth and depth court the entrance of steamers, and promise to reveal new lands at every stroke of the paddle. Here is a Paradise for poultry fanciers ; enough to make one entreat to be admitted into the Sarawāk service as an *attaché* and volunteer. What delight in tracking some secluded river, or exploring some lovely valley, to behold in the villages Cocks and Hens that would here sell for their weight in silver, if not in gold ; or perhaps to stumble on unknown Pea-fowl and Pheasants, a pair of which would draw half Middlesex and Surrey to the Zoological Gardens !

The addition of a fifth toe to the foot (the *monstra per excessum* of Blumenbach) as in the Dorking variety, is more likely than the crest to have supervened in the course of time. I do not find it mentioned by any earlier writer than Columella. The compilers of books on Poultry have stated that it is noticed by Aristotle, but I cannot hit upon the passage. In his treatise on the Parts of Animals, book iv. chap. 12, he speaks of the four toes of birds in general, noticing the peculiarities of the Ostrich and the Wryneck, but not a word about the fifth toe in Domestic Fowl, which he would scarcely have passed over had he ever observed it ; particularly as other remarkable circumstances, connected with them, such as the development of the egg, &c., attracted so much of his attention. From Aristotle to Columella is an interval of about 400 years ; quite time enough to render such a slight appendage permanent by hereditary transmission. The new member would probably appear only in a rudi-

mental form at first, and become more strongly developed in the course of succeeding generations. A Cochin China Cock in my possession has the outer toe of each foot furnished with two distinct claws, which we may take to be the earliest indication of a fifth toe. His chickens inherit the same peculiarity. A correspondent (H. H.) on whom I can rely, says "I had a Cock of the Golden Polish variety that lost two of his claws by accident, and in their place two smaller joints grew from the end of each toe, both provided with little claws. This became hereditary, for next season there were two chicks hatched, both having the aforesaid peculiarity." Analogous instances may be seen in Museums, of lizards with two tails; the original single one having been lost by accident, and two grew in its place. It is said, I know not with what truth, that a slight notch made in the stump of the decaudated reptile will ensure the production of a double tail. From the time of Columella to the present day, a fifth toe has been the well-known and distinctive characteristic of a certain breed.

Next to the Dog, the Fowl has been the most constant attendant upon Man in his migrations and his occupation of strange lands. The carnivorous diet of the Dog is one main cause of his pre-eminence. But search where you will, except in the very highest latitudes, you will find in New Zealand, Australia, the American Continents, the West Indies, and in islands innumerable, Fowls sharing in the possession and settlement obtained by Man. As we approach the Poles difficulties arise in the way of their further companionship. In Greenland they are occasionally kept only as curiosities and rarities. And Sir Wm. Hooker tells us that Poultry of all kinds is quite unknown to the Icelanders, except that a few are now and then conveyed to the country by the Danes, who are obliged at the same time to bring with them a sufficient supply of necessary food, *i. e.* grain, for their support, of which the island furnishes none. Fowls, however, would get on very well with a fish and meat diet with grass and

vegetables, assisted by a little imported corn, were there sufficient inducement to make the inhabitants take pains about their maintenance. But a little powder and shot procures them an abundance of wild-fowl that are much more to their taste; and fresh laid eggs would be little cared for by people, who, like the Icelanders, *prefer* those eggs of the Eider Duck which have young ones in them.

But the most mysterious though not the most ungenial localities in which Fowls have hitherto been found are the islands scattered over the vast Pacific Ocean. How they got there is as great or a greater puzzle than to divine the origin of the human population. The earliest discoverers found the people to be possessed of pigs, dogs, and fowls, all domesticated for the sake of being eaten. "On the walk to Oree's house (in Huaheine) Dr. Sparrman and I (Mr. G. Forster, who accompanied the expedition as Naturalist) saw great numbers of hogs, dogs, and fowls. The last roamed about at pleasure through the woods, and roosted on fruit-trees."—*Cook's 2nd Voyage*, 1772.

"Mr. Forster learned from the people the proper name of the island, which they call Tauna: . . . . The people of this island can be under no such necessity (of eating human flesh) for the want of other animal food; they have fine pork *and fowls*, and plenty of roots and fruits."—*Ibid.*

"The traditions of the people state, that fowls have existed in the islands (Tahiti) as long as the people, that they came with the first colonists by whom the islands were peopled, or that they were made by Taarva at the same time that men were made."—*Ellis's Polynesian Researches*, vol. i., p. 302.

This account would assign an unfathomable antiquity to the domestication of Fowls, confirmed by the following legend:—

"Mr. Young said, among the many traditionary accounts of the origin of the island and its inhabitants, was one, that in former times, when there was nothing but sea, an immense bird settled on the water and laid an egg, which

soon bursting, produced the island of Hawaii. Shortly after this a man and woman, with a hog and a dog, and a pair of Fowls, arrived in a canoe from the Society Islands, took up their abode in the eastern shores, and were the progenitors of the present inhabitants."—*Ellis's Missionary Tour through Hawaii.*

"The domestic Fowl was found in the Sandwich islands by their first discoverer, and though seldom used as an article of food, is raised for the supply of shipping." —*Ibid.* p. 9.

Captain Cook remarked them on islands that had never before been visited by civilised Man, and the very wide range over which they are distributed precludes the supposition of their having been introduced by Tasman or any of the other early voyagers. "There is only one tame species of birds, properly speaking, in the tropical isles of the South Sea, viz. the common Cock and Hen: they are numerous at Easter Island, where they are the only domestic animals; they are likewise in great plenty in the Society Isles and Friendly Isles, at which last they are of a prodigious size; they are also not uncommon at the Marquesas, Hebrides, and New Caledonia; but the low isles, and those of the temperate zone, are quite destitute of them."—*Mr. Forster's Journal of Captain Cook's Second Voyage.* The pigs have been affirmed to differ specifically from the European breeds; less has been said about the Poultry. It appears that there are different varieties in the different islands, some of very large size. Our great commercial and political intercourse with the East makes that the quarter from whence our importations of Fowls are mostly drawn, either as curious specimens, or for the sake of improving our stock; but it would certainly be interesting, and might prove useful, could we obtain a few new sorts, such as the Friendly Island breed, from the less frequented spots in the South Seas. Our Colonists and Missionaries in the Sandwich Islands and Tahiti might surely send us a few Cocks and Hens in return for the many substantial

benefits they have derived from the mother country. Mr. Williams's theory, which he supports by full details and arguments, is that Polynesia was originally colonised and occupied by emigrants from the Malay peninsula and Sumatra. He says, "so convinced am I of the practicability of performing a voyage from Sumatra to Tahiti in one of the large native canoes, that, if an object of sufficient magnitude could be accomplished by it, I should feel no hesitation in undertaking the task."—*Missionary Enterprises*, p. 510. He also offers a probable hypothesis for the existence of two distinct races of Men in the South Sea Islands, both derived from the great Asiatic Islands. If his views are correct, we have some slight clue to the introduction of Fowls into the isolated recesses of the Pacific Ocean, which only makes us the more anxious to get a sight of some genuine South Sea Poultry for the sake of comparing them with the East Indian breeds. If they be found to resemble them closely, it will be an additional confirmation of my belief that the lapse of ages upon ages is insufficient to alter any one living creature into a new species. And should this little book ever penetrate so far into the other hemisphere, let it persuade the Sandwich Islanders to preserve by domestication, and by transmission to this country, a stock of their most interesting,* pretty, and unique little Geese, before the race is quite swept out of existence.

As to the estimation in which Domestic Fowls are justly held, it is impossible for me to proclaim their merits adequately. Every county has a "strain" which is superior to that of the other fifty-one counties. "That strain again," as the Duke said to the singing-boy. Every neighbourhood has some crack breed which is unrivalled elsewhere; every old woman, in every village, has some pet Cock or Hen which she would not part with for

* They resemble the *Anser albifrons* in miniature, without the white front. They are so tame and attached as to follow their keeper about the house, like dogs.

twice its weight in butcher's meat, and an ounce of snuff into the bargain:

> "Non, mihi si linguæ centum sint, oraque centum,
> Ferrea vox, a strong steel pen, unlimited paper,"

could I completely detail the virtues attributed to Cocks and Hens.

Here is a list of "the Physical uses of a Hen and its parts:—

"1. *The Jelly of an old Hen*, made of a Hen cut with calves' feet, and sheep's feet, or beef, boiled six or seven hours in a close vessel, to which you may add spices, or cordial waters, is a great strengthener and nourisher.

"2. *Cock Ale* is made of *Hens'* flesh, (a bit of a bull, surely), boiled till the flesh falls from the bones; then it is beaten with the bones, and strained for wine or ale with spices.—Note. *The flesh of Hens is better than that of Cocks, except Capons. The flesh of a black Hen, that hath not laid, is accounted better and lighter.*

"3. *Cock-broth* is thus made: Tire an old Cock, till he fall with weariness, then kill and pluck him, and gut him, and stuff him with proper physic, and boil him till all the flesh falls off, then strain it. This broth mollifies, and by means of the nitrous parts wherewith that decrepit animal is endued, and which are exalted by that tiring of him, cuts and cleanseth, and moves the belly, the rather if you boil therein purging medicines. It is famous for easing the pains or the Colic (boiled with purgers and discutients) good against a Cough and Tartar of the Lungs, (boiled with breast herbs).

"4. *The Brain* thickens and stops fluxes, as that of the belly (taken in wine). Women anoint therewith the gums of Children to make them breed teeth.

"5. *The inward tunicle of the Stomach*, dried in the sun, and powdered, binds and strengthens the stomach, stops vomiting and fluxes, and breaks the stone.

"6. Is a virtue rivalling that of Balm of Syriacum.

"7. *The Gall* takes off spots from the skin, and is good for the eyes.

"8. *The Grease* of Hen or Capon is hot, moist, and softening, between the *Goose* and *Hogs'* grease, and obtunds acrimony, cures chapt lips, pains in the ears, and pustles in the eyes.

"9. *The Weasand* of a Cock, burnt and not consumed, given before supper, is an antidote to the influence of the herb Dandelion.

"10. *The Dung* doth all the same that the Pigeon's, but weaker; and besides, cures the Colic and pain of the Womb. Moreover, it is good especially against the Jaundice, Stone, and Suppression of Urine.

"Note. *The white part of the Dung is esteemed the best.*

"Give half a drachm, Morning and Evening, for four or five days.

"Outwardly it dries running heads, and other scabs (*the ashes sprinkled on*)."—*Willughby*, Book ii., p. 157.

More medicinal properties are added; so that a good Hen seems to be a perfect walking doctor's shop. Aldrovandi has filled more than 16 large folio pages with an account of the medicinal uses of Fowls and their Eggs, both for man and beast, which we do not quote here, as they would meet with little more serious attention than the foregoing. Hens were sacrificed by the ancient pagans to Æsculapius, the God of Medicine, on account of the services they were supposed to render to the health of mankind. Fever, dysentery, melancholy, epilepsy, cough, colic, all yielded to some preparation from gallinaceous materials. Even the surgeon was superseded by their virtues. A plaister composed of white of egg and white frankincense cured broken bones; the albumen alone was a sovereign vulnerary. Oil of eggs regenerated hair more surely than Rowland's Macassar. Other preparations were remedial against poison, corns on the toes, the bites of mad dogs and vipers, and frenzy. In short, every one who had a tolerable stock

of poultry, had only himself to blame if he did not repel the usual ills to which mortal flesh is subject.

It can, therefore, be no trifling amount of intrinsic excellence which has earned for them such a universal good opinion. Independent of all considerations of profitableness, they are gifted with two qualifications, which, whether in man, beast, or bird, are sure to be popular; those are, a courageous temper, and an affectionate disposition. Add to these, beauty of appearance and hardiness of constitution, and it is no wonder that each old wife thinks her own stud of Fowls invaluable. It is recorded of Catherine the Second of Russia, who was great in more senses than one, that she compelled a rival to her throne to amuse himself with tending poultry, and "other imbecilities." The story was meant to tell against her; but worse things might be said of her, and perhaps of many other jealous tyrants.

The courage of the Cock is emblematic, his gallantry admirable, his sense of discipline and subordination most exemplary. See how a good Game Cock of two or three years' experience will, in five minutes, restore order into an uproarious poultry-yard. He does not use harsh means of coercion, when mild will suit the purpose. A look, a gesture, a deep chuckling growl, gives the hint that turbulence is no longer to be permitted; and if these are not effectual, severer punishment is fearlessly administered. Nor is he aggressive to birds of other species. He allows the Turkey to strut before his numerous dames, and the Guinea Fowl to court his single mate uninterrupted; but if the one presumes upon his superior weight, and the other on his cowardly tiltings from behind, he soon makes them smart for their rash presumption. His politeness to females is as marked as were Lord Chesterfield's attentions to old ladies, and much more unaffected. Nor does he merely act the agreeable dangler; when occasion requires he is also their brave defender, if he is good for anything. "They should sometimes offer resistance, and protect their flock of wives, and even kill a serpent or

other noxious animal that threatens danger."—*Col.*, lib. viii. cap. 2. A Hen, that I caught to examine, screamed till she called her husband to her assistance. Instantly his spur was buried deep in the fleshy part of my thumb, nor did his anger cease till the lady was at liberty. The same Game Cock, whenever fowls were killed for the table, made a point of attacking the man whose business it was to secure them, tore his trowsers, and made all possible bold resistance.

"A Black Polish Cock that our shepherd has, struck him the other morning on the temples, as he was catching one of the Hens, making the poor fellow faint and bleeding for some time. He said 'he did not mind hisself, but if er got vleeing at arn of the childurn, he'd *soon* het his head off!' I hope he will not. Some years back I had an old Silver Polish that would spur some time with my *hat!* if placed before him."—*H. H.*

The Game Cock is in his native country really a more formidable creature than he is here. "The Dutch doctors are of opinion, that certain cases of hydrophobia which have occurred in Java, notwithstanding no instance of canine madness was ever known on the island, may be attributed to climate, and the state of the constitution as affected by it. The bite of the large Indian rat, commonly called the *Bandicoot*, is supposed to occasion hydrophobia and certain death; an opinion which, I understand, is also entertained on the coast of Malabar. The bite of an enraged man is said to be as certain of producing hydrophobia as that of a mad dog, two cases of which had happened not long before our arrival. Dr. Le Dulx mentions several instances of hydrophobia succeeding to the bite of enraged animals, as in the case of a boy bit by a Duck which he had disturbed in its amours, and of a feeder of Cocks, who, being pecked in the hand by one of these animals in separating it from its antagonist, died under every symptom of hydrophobia and madness." *Barrow's Voyage to Cochin China.*

"Omnes in primis Galli Gallinacei vitæ actiones veri

patris-familias, et qui in eo omnem suam curam ponit, et studium, ut familiæ suæ de omnibus necessariis prospiciat, significare potest. Hæc enim ales totâ die quicquid virium habet, id totum ad suorum confert salutem, et nullius rei minus, quam sui ipsius solicita est. Unde sapientissimus Pythagoras tam providam animalis, et erga suos promptam naturam considerans, dixit, nutriendum quidem Gallum esse; at non immolandum."—*Aldrovandi.*

The first sentence does not quite construe, but means to say that the actions of the entire life of the Gallinaceous Cock show that he is a most excellent family man, placing his whole care and study in providing all necessaries for his household. For this bird devotes whatever energy he has the livelong day to the good of his dependents, and is solicitous about nothing less than self. Whence the sage Pythagoras, considering the provident and attentive nature of the creature, declared that the Cock ought to be cherished, not sacrificed.

The Hen is deservedly the acknowledged pattern of maternal love. When her passion of philoprogenitiveness is disappointed by the failure or subtraction of her own brood, she will either go on sitting till her natural powers fail, or will violently kidnap the young of other Fowls, and insist upon adopting them. A Hen in my neighbourhood was kept incubating eleven weeks before she was allowed to lead forth a clutch. One of my own took *two* chickens away from the family of another Hen, and went about with them the greater part of the summer. A black Bantam belonging to H. H., "had a singular habit of adopting in the first instance a single half-grown chick. Another year she actually took a whole brood of eight little things off their mother's hands, first doing battle with her for them. These chicks she tended carefully for nearly two months, and then turned them off in the usual way."

In another case, and one which may be considered more extraordinary, a Hen of rather a violent disposition was much annoyed by a dozen small forsaken chickens

repairing to her when she was sitting on some eggs in the crib of an outhouse, and nestling under her at night. For a whole week she was at constant warfare with these little orphans, pecking them, and injuring some of them severely. On a sudden, she seemed to change her mind, and from that time became excessively fond of them, and in a day or two left her nest eggs, and proved a careful and tender mother to them for several months. This Hen was a Silver Poland.

"I witnessed this morning the daring courage of one of my Hens, in knocking a Crow, stunned and senseless on the earth, that had attacked a chick of hers. She did not allow it time to seize the chicken, but struck at it with both beak and spurs."—*H. H.*, July 13, 1848.

But all Hens are not alike: they have their little whims and fancies, likes and dislikes, as capricious and unaccountable as those of other females. Some are gentle, others sanguinary, some are lazy, others energetic almost to insanity. Some can scarcely be kept out of the house, others say, 'Thank you, but I'd rather be left to myself.'

"Finally, they differ in manners and disposition; for besides that some are called Domestic, others Wild, even among the Domestic ones, some by their very nature are so mild and familiar that they cannot get through life without the society of mankind; of which I am an eye-witness. For, some years ago, I kept at my country seat a Hen, which, besides keeping by herself all day long, and wandering about the house apart from the companionship of her fellows, in the evening would go to rest nowhere but close to me among my books, *and those rather big ones*, (*eosque majores*), although she was often driven away. Some, on the other hand, so far from taking pleasure in the society of men, are so shy as to avoid them utterly; others are cruel to their own young; others suck the eggs that themselves have laid."—*Aldrovandi.*

But with all their extreme usefulness to man, these birds cannot claim even so much as a name, or a title,

proper to themselves in our own and several other languages, both modern and ancient. If the commentators are right, "the bird" was its Hebrew appellation.* Our English "Cock and Hen" are mere general terms of sex, as common to the whole feathered tribe, as the title of Esquire is to all mankind. We are obliged to go round about, and say "Domestic Cock," "Common Fowl," &c.; sometimes "Cockerel" is substituted, which, after a certain age is applied incorrectly. The Americanism of "Rooster," it may be hoped, will never be adopted on this side of the water. The German *Haushahn* is shorter, but not at all less clumsy than the English appellation. In Latin it was worse; *gallina* was quite indefinite, and *Gallus gallinaceus* and *Gallina gallinacea* are words better suited for a Christmas game at forfeits than to enter into the language of a polished people. "Pullus," whence our "pullet," is as applicable to a young colt as to a chicken. It is hard that one of the most valuable birds in existence should be accurately indicated only by means of a periphrasis.

However, an Anglo-Saxon relative thinks that I have treated the most ancient civilised bird very harshly and unfairly in denying him a name in our language. And notwithstanding that Webster in his Dictionary takes my view of the point at issue, he still thinks that "Cock" is proper only to the bird in question; and that the word is derived, as Skinner, Lyer, and Richardson think, from his cry or call, *à sono seu cantu quem edit.* He imagines that all those birds which have their gender denoted by the terms *cock* and *hen*, were so honoured by our ancestors *because* the domestic (or, as Webster calls it, Barn-door) Fowl was the most familiar to them: and that neither of the words denoted gender at all, properly speaking. The word *Hen* certainly has nothing to do with gender; to wit, German, Hahn, a Cock; Danish,

* Called by the *Gresler* Ἀλεκτρυὼν, and of old by a general name, Ὄρνις."—WILLUGHBY.

Hane, a Cock. Turkey-cock, Cock-sparrow, &c., have usurped the proper name of Chanticleer. The Anglo-Saxon words for Cock and Hen are scarcely different in orthography, and not at all in pronunciation, from the English. The version of Matth. xxvi. 34, "before the cock crow," is *ærtham th cocc craw*. *Hen*, *hœn*, or *henn* is a Hen in Anglo-Saxon. "A Hen's egg" is, *an henne æg*, the termination *ne* making the genitive. Really, we may ask, ought not the Cock and Hen to be honoured as the King and Queen of Birds?

According to Aldrovandi, the Gauls, *Galli*, did not derive the name of their nation from the *Gallus*, or Cock, but from the Greek word γαλα, milk; on account of the lightness of their complexions; for mountains, and a rigorous climate exclude the heat of the sun from those regions, and the skins of the inhabitants are not darkened by it! But he is informed by the most learned Joannes Goropius that the Danes chose to be so styled, because they devoted themselves to the pursuits of war, not so much from greed, as from the desire of victory and glory inherent in noble minds. The Gallinaceous Cock is an epitome of such qualities, and therefore they took him as their symbol. They called themselves *De hanen*, contracted into Danen, on which account they were accustomed to carry couples of Cocks with them in their campaigns, for the double purpose of stimulating their courage by example, and proclaiming the time by their crowing.

We prefer consulting Dr. Lindley, to Aldrovandi, on the nature and properties of the herbs Cockscomb, Cocksfoot, or Pes Gallinaceus gramini similis, "like unto a grass;" Morsus Gallinæ, Hœnderbeet or Hen's bit, Grassagallina or Fat Hen, Ornithogalum or Hen's-milk, and Hanensporn or Cockspur.

It could not be that attention should not be turned to such remarkable creatures as our Fowls, which, like familiar spirits, are constantly gliding before our eyes, and prating their unintelligible jargon into our ears. It would

have been strange had no superstitious ideas been connected with them in the ages of ignorance, and in countries remote from the lights of civilisation and true religion. I must confess myself to be much pained by hearing the crowing of Cocks in the evening, particularly the early part of it, and as unwilling to listen to it, as to sail on a long voyage on a Friday.*

"Once every year the *Mandarins* (of Tonquin) receive an Oath of Allegiance to the King, from all the principal Officers under him. This is done with great ceremony; they cut the throat of a Hen, and let the blood fall into a bason of arrack. Of this arrack every man has a small draught given him to drink, after he has publicly declared his sincerity, and readiness to serve his Prince. 'Tis esteem'd the solemnest tye by which any man ingage himself." — *Dampier's Voyages*, vol. ii. p. 82. Every nation has its ceremonies and binding forms, which so long as they involve nothing false or irreligious or criminal, are to be respected, and not lightly ridiculed or broken through, lest we abolish wholesome restraints that are not easily reimposed in another shape; but Aldrovandi,

* From sad associations, not from superstitious dread. The evenings of the 20th and 19th of December of 1846 and 1847, respectively bereaved me of two most dear friends: in each case, shortly before the spirit departed, the Cocks were crowing loudly.

"The notion of Cocks crowing often during the night before Christmas, is familiar to us from the well-known lines in Hamlet:

> "'Some say, that ever 'gainst that season comes
> Wherein our Saviour's birth is celebrate,
> This bird of dawning singeth all night long:' &c.

"I was once staying at a friend's house in the month of January, where the Cock crew every evening regularly at nine o'clock; keeping it up for about ten minutes and then desisting."—*Jenyns's Observations*, p. 171. Although this is not the place for a commentary, we may observe, that if Cocks always had a habit of crowing unusually early and continually about the winter solstice, the declaration (whichever reading of the Evangelists we take) "The Cock shall *not* crow till thou hast denied me thrice," assumes the character of a miraculous intervention, as well as of a prophecy.

with whatever motive, gives a selection of absurdly false miracles, lying legends, and blasphemous superstitions, which it is impossible to notice more precisely without giving pain to the really pious mind, and affording matter for derision and shallow triumph to the scoffer.

A fact respecting Fowls, that has not been sufficiently regarded, but which goes far to prove their high antiquity, is the *permanent character* of the different varieties. Before attending much to the subject, people fancy that crossings and intermixtures may be infinitely multiplied and continued, restricted only by the algebraic law of Permutation and Combination; and such is the current opinion among many who are accustomed to see the diverse colours and appearance of Fowls promiscuously bred in a farm-yard. But the observant breeder knows that such is not the case. Nothing is more difficult than to establish a permanent intermediate race between even nearly allied varieties. In a few generations the character reverts to that of one or other of the parents; the peculiarities of an old type reappear, and the new cross, on which the fancier was beginning to glorify himself, vanishes. The more heterogeneous are the parents, the more sudden is the return to old-established characters. The hybrid progeny are either utterly barren, or their young exhibit the likeness of their grandfather or grandmother, not of their actual parents.

"I have lately succeeded in producing a most magnificent hybrid breed between the Golden and Black Polish, having the rich spotted body of the former, and the handsome white crest of the latter. This was a work of some difficulty and time, and I am still so particular as to think it requires *one* more generation to bring them to perfection."—"It struck me that the Golden would be much improved by the handsome white crest of the Black Polish. By selecting at first some of the former that had a few white feathers on the head, and again crossing the best of these Hens with a *Polish Cock* for two seasons, they are at length approaching perfection, and will

be the best and handsomest breed of all. A trial was made *vice versâ*, which brought them perfectly black, with immense black heads."—"It is rather a curious fact, that my hybrids, though originating from two varieties of Polish, neither remarkable for being good incubators, are early and very good and steady birds to sit, but perhaps not remarkably sweet-tempered to other chicks. I cannot explain this, unless we take it on the rule that two negatives make an affirmative." So far so good. A subsequent report is, "My hybrid chickens are beginning to come out, and I find many 'cry back,' as I had expected. The only remedy is to hatch a good many, and then select. In a few years the breed will be established."—*H. H.*

Will it? Or is this "crying back" only the beginning of the end? Peisthetærus may still have to utter his complaint:—

"Plague on thee; but this bird of mine croaks 'back again.'"

However, the latest accounts are favourable.

This is an instance of the results of crossing between two very closely related sorts, and many experimentalising amateurs could produce similar instances. But the results of more discordant and ill-assorted matches are more immediate and striking. The Zoological Society possessed in May, 1848, two birds bred between the Jungle Fowl (Sonnerat's Cock) and the Red Bantam, that bearing the greatest resemblance to the Bankiva Cock. Their pedigree and their relationship to each species is the same; namely, three-quarters Bantam and one-quarter Jungle Fowl. But they would be pronounced by most persons to whom their origin was unknown, to be, one a Bantam, the other a Jungle Fowl. In 1849, the keepers informed me that if hybrid chickens between the Jungle and Common Fowl are made to go on breeding in and in, the progeny is at last so weak, that it is impossible to rear them. A half-bred Sonnerat's Jungle and Game Cock, obtained from the Zoological Society, differs much in voice, carriage,

and plumage, from any Common Fowl. He is not sterile, having already been the parent of chickens, but his disposition is strange and cruel: he has already killed one valuable Hen and severely injured others by lacerating their combs and heads. This does not look as if the amalgamation of the Jungle and the Domestic Fowl were a very natural proceeding. "Le Roi, Lieutenant of the Rangers at Versailles, put a hen Golden Pheasant to a cock Pheasant of this country, and obtained two cock Pheasants very like the common kind: but the plumage had a dirty cast, and only a few yellow feathers on the head like those of the Golden Pheasant; and these two young males being paired with European hen Pheasants, one succeeded the second year, and a hen Pheasant was hatched which could never be made to breed. The two Cocks produced no more."—*Buffon.* We reserve for the section on the Pheasant Malay Fowl, what is to be said respecting the absurd notion, that a cross with the common Pheasant has been instrumental in improving our Domestic Poultry. Baptista Porta states that he himself reared hybrids between a Dove, "Columbus," and a dwarf Hen, which combined the lineaments of either parent. We are not told whether they proved prolific or sterile; but, in fact, such strange combinations appear to be in a state of what mathematicians call "unstable equilibrium"—St. Paul's Cathedral turned upside down, and balanced by a cunning professor of gymnastics on the tip end of the cross—the centre of gravity is in the wrong place, and the least touch, the least hair's-breadth of wavering, is sufficient to bring down ruin. Or an analogy may be imaged forth by those delicate chemical unions of matter, such as gunpowder and fulminating silver, where the elementary particles are combined indeed, but can hardly be moved without one flying one way and one another, leaving little that is visible or satisfactory behind them. Or a more homely comparison may be drawn from ill-made melted butter, which is really not melted butter at all, but a

delicately manipulated commingling of water, flour, and oil. Unless the cook be skilful, the flour settles in one direction, the water runs a second way, and the oil floats a third; proving that melted butter, like gallinaceous monstrosities, is an unnatural affair. The Zoological Society also possesses hybrids between the Guinea Fowl and the Domestic Fowl; curious creatures, that are sterile hitherto, and look as if they intended so to remain. Their plumage is barred, not spotted, with dirty white and grey; there is something between a ruff and a hackle hanging around their necks; and every poulterer who sees them must wonder, not that they do not multiply, but that they ever came into the world at all. It is very important, not only for practical purposes, but also as involving a great physiological principle, to show that species and varieties are permanent, not ever-changing; that like does beget like; and that creatures are not moulded and modified according to circumstances, and do not remodel their members or acquire new ones, as the exigency of their situation for the time being demands. In the case of Fowls, the theory of progressive development and change is certainly unsupported by evidence, though they and other domesticated animals are supposed to be instances in which it is peculiarly likely to be exemplified. Before the Christian era the varieties of fowl were not less numerous, but in many instances were probably identical with what we have at the present day. Columella particularly recommends as the best, those sorts that have five toes and white ears—the marks of our highly-esteemed breeds, the Dorking and the Spanish. He warns his contemporaries that Bantams, "pumiliones aves," will prove troublesome, by preventing the eggs of larger birds from being properly fertilised. He dismissed the fighting breed as being foreign to his subject, which treated only of profitable sorts, and had nothing to do with cock-fighting. He mentions the Tanagric, the Rhodian, the Chalcidic, and the Medic, as tall birds of high courage, but prefers their own common sort,

"nostrum vernaculum," for economical purposes, allowing, however, that a first cross produces fine chickens.—"But the Adrianic Hens are small indeed; but they lay every day. They are ill-tempered, and frequently kill the (he does not say their own) young. And they are of all sorts of colours." Many of our larger Bantams exactly tally to this, particularly in the savage propensity to kill chickens, which they discover to be substituted.

We may, therefore, infer that our existing Domestic Fowls are not improvements or modifications of those Cocks that are now found wild in the East, but that they have as much right to be called original varieties or species (whichever term it may be thought right to apply to them) as any of those which are allowed to rank in the catalogues of the naturalist. The converse opinion, namely, that the forms of living creatures are undergoing perpetual changes, according to the circumstances under which they happen to be placed, has only to be stated in the exaggerated length to which some theorists have carried it, to refute itself by the outrageous shock it gives to experience and common sense. Buffon thus accounts for the existence of various species of Pheasants:—"Since no naturalist or traveller has given the least hint concerning the original abode of the Black-and-White (our Silver) Pheasant, we are obliged to form conjectures. I am inclined to suppose that, as the Pheasant of Georgia (the common species of our preserves) having migrated towards the east, and having fixed its residence in the southern or temperate provinces of China, has become the Painted (with us Golden) Pheasant; so, the White Pheasant, which is an inhabitant of our cold climates, or that of Tartary, having travelled into the northern provinces of China, has become the pencilled or silver kind: that it has there grown to a greater size than the original Pheasant, or that of Georgia, because it has found in those provinces food more plentiful and better suited to its nature; but that it betrays the marks of a new climate in its air, port, and external form; in all which it resembles the

Painted Pheasant, but retains of the original Pheasant the red orbits, which have been even expanded from the same causes undoubtedly that promoted the growth of its body, and gave it a superiority over the ordinary Pheasant." By this sort of gentle transmutation, any one bird may be easily manufactured from any other. Dr. Erasmus Darwin proceeds boldly to the work, and carries it out on a grand scale. "As Linnæus has conjectured in respect to the vegetable world (where?), it is not impossible but the great variety of species of animals, which now tenant the earth, may have had their origin from the mixture of a few natural orders.

"Such a promiscuous intercourse of animals is said to exist at this day in New South Wales, by Captain Hunter. And that not only amongst the quadrupeds and birds of different kinds, but even amongst the fish, and, as he believes, amongst the vegetables. He speaks of an animal between the opossum and the kangaroo, from the size of a sheep to that of a rat. Many fish seem to partake of the shark; some with a skait's head and shoulders, and the hind part of a shark; others with a shark's head and the body of a mullet; and some with a shark's head and the flat body of a sting-ray. Many birds partake of the Parrot: some have the head, neck, and bill of a Parrot, with long straight feet and legs; others with legs and feet of a Parrot, with head and neck of a Sea-gull."*—*Zöonomia*, vol. i. p. 499.

Again he continues, even yet more adventurously:—

"Another great want felt by animals consists in the means of procuring food, which has diversified the forms of all species. Thus, the nose of the swine has become hard for the purpose of turning up the soil in search of insects and of roots. The trunk of the elephant is an elongation of the nose for the purpose of pulling down

* Some of our decoy-men call the Godwit a "half-bred Curlew;" whether they have any belief in such a pedigree, they could not, perhaps, themselves declare.

the branches of trees for his food, and for taking up water without bending his knees. Beasts of prey have acquired strong jaws or talons. Cattle have acquired a rough tongue and a rough palate to pull off the blades of grass, as cows and sheep. Some birds have acquired beaks adapted to break the harder seeds, as sparrows. Others for the softer seeds or flowers, or the buds of trees, as the Finches. Other birds have acquired long beaks to penetrate the moister soils in search of insects or roots, as Woodcocks; and others broad ones to filtrate the water of lakes, and to retain aquatic insects. All which *seem to have been gradually produced during many generations, by the perpetual endeavour of the creatures to supply the want of food, and to have been delivered to their posterity with constant improvement of them, for the purposes required.*

"Would it then be too bold to imagine, that all warm-blooded animals *have arisen from* one living filament, which *the great First Cause* endued with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions, and associations; and thus possessing the faculty of continuing to improve by its own inherent activity, and of delivering down those improvements by generation to its posterity, world without end!"—*Id.* vol. i. p. 505.

These extracts are not given from any disrespect to the abilities or intentions of the writers, for they were both men to whom science is much indebted, but to show what strange and startling conclusions may be arrived at by arguing from premises that are not founded on proved facts, but on plausibility and fashionable hypotheses merely. But we will now maintain unhesitatingly, that it was not Man or his domestication, or any inherent tendency in the creatures themselves, that gave feathered crests to the Poland Fowl, dwarfed the Bantam, expanded the Dorking, enlarged the Malay and Cochin-China Fowl, inspired courage to the Game Cock, or made the Hen, next to Woman, the most exemplary of mothers: unless we believe it was Man who arranged the strata in the ribs

of the earth, and prescribed to the sea its everchanging boundaries. Man is powerful to have dominion; God alone is potent to create—His Providence to overrule. Not by Man, nor Chance, nor by generative force of an idol called Nature, have the things which we see, and the diversities in our living fellow-creatures, been brought about. No; most thankfully, no! Then would matters have been far less harmoniously, far less benignantly arranged. It is our greatest consolation to feel assured that all the physical changes which this earth has undergone, and every renovation of its inhabitants, has been from the beginning fore ordained by that all-wise and all-powerful Being, in whose presence (and we are ever in His presence) the best and greatest of us would be crushed into nothingness, did we not, to our comfort, believe that He is not the Creator merely, but the Father and Protector of every animated creature. "These wait all upon Thee, that Thou mayest give them meat in due season. When Thou givest it them, they gather it, and when Thou openest Thy hand, they are filled with good. When Thou hidest Thy face, they are troubled. When Thou takest away their breath they die, and are turned again to their dust."

THE REARING AND MANAGEMENT OF FOWLS.

"Although every woman knows how to rear the gallinaceous tribe, yet some precepts have been prescribed by the most assiduous ancient Geoponics, which are unknown, not only to them, but perhaps even to the erudite."—ALDROVANDI.

THERE are two classes of Fowl-breeders: those who rear them for amusement, and for the convenience of having a few chickens at hand to kill, and a few Hens on the goodness of whose eggs they can depend; and those whose only object is to increase their stock as fast as possible, as a matter of business, and solely for gain and profit. It may safely be stated that the number of those who can strictly be included in this latter division is extremely limited. Even the poor cottager who has just a couple of Hens, and is dependent upon some richer neighbour for a supply of eggs that will produce chickens, keeps them more because she finds pleasure in seeing the good creatures busying about with their broods, than for any profitable advantage she is likely to get by them. If she be poor, with a large family, she no more presumes to indulge herself with keeping Fowls, than she would with a caged Lark, or Goldfinch, or Thrush. If she be lone and industrious, and so have a trifle to spare, or be the childless wife of a thrifty husband, she may gratify her pride with Cocks and Hens, to the envy of her neighbours. Even on large farms it is more as save-alls and collectors of scattered fragments, which would otherwise be wasted, that Fowls are serviceable. And if the farmer were to

charge his wife with all the corn consumed in their rearing and fatting, we may venture to assert that a much smaller supply of them would be sent to market. These observations are less applicable to Ducks, Geese, and Turkeys; but in no case is any account taken of the time their tending demands, that being considered as part of the household routine, or even in the light of a relaxation. It is not by those who usually rear chickens that large profits are made, although the gross sum returned at the end of the year may appear to be large. The greatest gainers are the travelling dealers who scour the country, and buy, for the lowest farthing they can get them, small lots of Fowls and eggs here and there, the superabundant produce of various housewives, either disposing of them immediately at advanced prices, or shutting up the birds at once to be fatted for market. The poulterers and feeders on a large scale in great towns doubtless derive a remunerating trade. It is the middle-men who are the principal gainers. And when we shall have succeeded in producing peaches and nectarines for the million, for dessert, we may calculate on rearing Poultry for the million for dinner.

Those who set about keeping Fowls, as amateurs for the first time, to whom alone we address ourselves, are recommended to begin with a limited number, such as a Cock and four or five Hens, of some distinct and choice breed; or, if it be desired to test the value of different sorts of Hens, one or two of *them* may be admitted, care being taken to separate all the cross-bred progeny for the fatting coop and the dinner-table. It will add to the amusement derived, if, in the first instance, strong three-quarter grown chickens are procured, instead of adult birds, so that an opportunity is given of watching their progress to maturity.

As to fowl-houses and other accommodations, so much depends upon circumstances, that minute directions are almost impertinent. The three grand requisites are cleanliness, dryness, and warmth. Those who wish for

anything on a large scale, will find plenty of plans and descriptions in books, so that if they choose they may lay out as much money in a hen-house as would build a comfortable cottage ornée. But most people have little choice in the matter: they must take or adapt such conveniences as they find around them. The Fowls themselves are not very fastidious; but we may be sure that the more we attend to the comforts of our domestic animals, the more they will reward our trouble.

In the first place, then, the Fowls should have a good roof overhead. Many such outbuildings are merely tiled, my own, till lately, among the number. During summer this construction is the best, as all night long the house is ventilated with warm air passing through the interstices of the tiles that have been heated by the sun the whole day. Of course the roof is supposed to be in such good repair, and the tiles so well overlapped, that no drippings of water from above are admitted. But in winter such draughts are very injurious, particularly as the Fowls will roost as near to the roof as they can get, so that their head, the most sensitive part, is most exposed to the influence of cold. In the autumn of 1847 I lost several favourite birds—a valuable Turkey among the number—solely from this cause, as I believe. The expense of ceiling with lath and plaster is trifling, the winter comfort of the Fowls must be much increased, and with it their health and profitableness. Leaving the door open for a while every day will sufficiently change the air in any weather.

Some people allow their Fowls to roost abroad all night, in all weathers, in hawthorn or elder-trees, that stand near the fowl-houses. But the plan is a slovenly mode of keeping even the humblest live stock: it offers a temptation to thieves, and the health of the Fowls cannot be improved by their being soaked all night long in drenching rain, or having their feet frozen to the branches. There is no difficulty in accustoming any sort of poultry, except the Peafowl, to regular housing at night.

Rough poles, two or three inches in diameter, with the bark left on, make the best roosting perches ; to which a hen-ladder should afford a convenient means of ascent, to save the birds the strain of flying up, and perhaps frequent falls in consequence of failure. A hen-ladder is an indispensable piece of furniture, though frequently absent. The nests or laying places may be either wooden fixtures contiguous to the wall, or the Hens may be accommodated with shallow hampers here and there, out of the way of dirt, and easily reached. The fixed nests should be thoroughly whitewashed inside and out, at least once a month during summer, to destroy fleas, &c. The hampers may be taken down, shaken out, and completely purified at intervals.

It is as well to have the fixed laying places made not larger than is sufficient to accommodate a full-sized Hen, in order to prevent two or more Hens from quarrelling for the same nest. I have seen excellent laying and sitting-boxes, of a convenient capacity, built with brickwork, up against one or more sides of the fowl-house, much in the same way as is seen in the lockers in old-fashioned manorial dovecotes. Each box was fitted with a loose, thin wooden bottom, to slide over the bottom of stone or brickwork, and having a half-inch rim in front, to keep the eggs from rolling out. The plan is a good one. After each sitting, the sliding bottom of the box can be taken out, scoured and scalded, and the brickwork washed and white-washed, as may the wooden slide also. A great convenience, especially where a numerous and various head of poultry is kept, will be found in a range of small separate fowl-houses about a cubic yard or a little more in size, each with its own door fastened by a button, and a latticed aperture to admit air over the door. Into these, each breeding fowl, with her young, can be separately driven from the coops at night, and remain there without disturbance or quarrels till the proper time to go abroad next day. Each of these private apartments can be gravelled or littered, according to the requirements of

their occupants, and supplied with pans of water, green turves, a cabbage, a handful of corn, or whatever else is wanted. A recent traveller in Connemara found the cottagers' Hens accommodated with neatly worked straw-baskets, fashioned like a reticule, or a watch-pocket at the bed's head. These were hung up against the wall at one end of the hovel for the Hens to lay in; the reason for the arrangement being, that the sow and pigs occupied the other end, and would surely devour any eggs that were laid on the ground. Though eggs fetched only four-pence a score, it would not do to lose them: other provisions bore proportionate prices. The paradox of starvation amidst cheapness and abundance is extremely puzzling.

If the floor of the fowl-house can be swept every day, and sprinkled with fresh sand, gravel, or ashes, so much the better. Dust and cobwebs on the walls, and up the corners, are neither a decoration nor an advantage. Cobbett says that no pigsty is what it ought to be, unless it is clean enough and dry enough for a man, upon a pinch, to pass a night in it with tolerable comfort; we say that no fowl-house is what it ought to be, unless it is in such a state as to afford a lady, without offending her sense of decent propriety, a respectable shelter on a showery day. A false ceiling of wood suspended beneath the roosting perches is a mode sometimes adopted of keeping the floor of the house clean, by catching the dung as it falls from the Fowls; but the plan requires extreme cleanliness on the part of the attendants; the filth out of sight is apt to be out of mind, and allowed to accumulate, and is also brought too close under the Fowls themselves, even if it be removed daily. To close all, a good door is requisite, with a small wicket gate at the bottom, to allow ingress and egress. It is better that Turkeys should not roost in the same house, as they are apt to be cross to sitting and laying Hens; if they do, the wicket must be of proportional size. My readers, I hope, will not be offended at a hint that a hole that will admit a Turkey, will also allow a Hen to pass; and that there is no need

to make a smaller aperture by the side of the larger, unless they like the look of it. A first-rate lock can do no harm on the door, as Columella advises, "That no cats or snakes have access to the birds, and that other equally noxious pests* be kept at a distance." Possibly even in classical times there were such creatures as fowl-stealers.

With peace and plenty the newly arrived young Fowls will thrive apace. Soon after they are full-grown, the comb both of the Cock and the Hens will be observed to become of a more brilliant red, the Cock will crow more lustily, and with more of a *canto fermo* than before, the Hens will grow animated, restless, full of busy importance, as if a new idea had lately broke in upon their minds. By-and-by they will commence prating and cackling, and in a few days the delighted Pullet will lay her first egg. It is hard to say which receives the most pleasure at contemplating the smooth, immaculate production, the Hen or her amateur owner.† And when, time after time, the first instalment is followed by similar deposits, she thinks herself, and is thought, a perfect paragon. Such are the pleasures of productiveness. Those whose inherited wealth comes to them quarterly or annually, without any thought or exertion on their part, have no conception how bright and beautiful the money looks of which they can say "I have fairly and honestly earned it; I have done something useful for it." So with the Hen; she is an industrious little save-all. She rescues from waste many a minute portion of nutritious matter, collects it in her crop, and converts it into wholesome food for Man. After a while her own turn comes to be served; the pleasures of motherhood must be accorded to her. Nature has been sufficiently tasked in one direction; she becomes feverish, loses flesh, her comb is livid, her eye dull. She sees in her heated fancy

* "*Pestis*, a rogue, a villain."—*Ainsworth's Dictionary.*

† The very first egg, however, which a Pullet lays is seldom quite immaculate, but bears marks of the effort it has cost: those subsequently laid appear with greater purity.

her young ones crowding around her, bristles her feathers to intimidate an imaginary enemy, and, as if they were already there, she utters the maternal "cluck"—"chioccia"—"glocientes"—"clock-hens;" "Sic enim apellant rustici aves eas quæ volunt incubare."

In no other bird, that I am aware, is the desire of incubation thus manifested. I am very much inclined to attribute it to the imagination of the Fowl anticipating the duties that are to follow. The cry is exactly the same, although other various tones are afterwards made use of; for example, the acute voice with which she calls her chicks to partake of some dainty, which is also used by the male bird to assemble his Hens on a similar occasion, —and the short *staccato* note which gives warning of danger from a hawk, or a strange dog. Indeed, the language of Fowls, though inarticulate, is sufficiently fixed and determined for *us* to know what some of it means. But the Hen that "clucks" is evidently thinking about her future young; and she is not alone in indulging such dreams of offspring. A caged Virginian Nightingale has been recorded to go through the pantomimic actions of feeding its brood in the spring (*Gard. Mag.*). A Bantam Hen was barren, but always entered the nest daily, never laying; but at last became broody, was supplied with eggs, and proved an excellent sitter and mother.

When the determination to sit becomes fixed,—there is no need to indulge the first faint indications immediately—let her have the nest she has selected well cleaned and filled with fresh straw. The number of eggs to be given to her will depend upon the season, and upon their and her own size. The wisest plan is not to be too greedy. The number of chickens hatched is often in inverse proportion to the number of eggs set; I have known only five to be obtained from sixteen. Hens will in general well cover from eleven to thirteen eggs laid by themselves. A Bantam may be trusted with about half-a-dozen eggs of a large breed, such as the Spanish. A Hen of the largest size, as a Dorking, will successfully hatch at the most five

Goose's eggs. But if a Hen is really determined to sit, it is useless as well as cruel to attempt to divert her from her object. The means usually prescribed are such as no humane person would willingly put in practice. If the season is too late or too early to give a hope of rearing gallinaceous birds, the eggs of Ducks or Geese may always be had; and the young may be brought up, with a little pains-taking, at any time of the year. And if it be required to retain the services of a Hen for expected valuable eggs, she may be beguiled for a week or ten days with four or five old addled ones till the choicer sort arrive.

Three weeks is the period of incubation of the common Hen. Sometimes when she does not sit close for the first day or two, or in early spring, it will be some hours longer; more rarely in this climate, when the Hen is assiduous and the weather is hot, the time will be a trifle shorter. The growth of the chick in the egg has been so fully and so well described by many writers, from Aristotle down to Reaumur, that I need merely refer the reader to them. The observations of the latter particularly have appeared in almost every compilation that has been published on the subject; and I must think it better taste for common inquirers to betake themselves to such sources of information, illustrated as they are by good engravings, than to desire that a set of half-hatched eggs should be broken to gratify their curiosity. A shattered and imperfectly formed chick, struggling in vain in the fluid that ought to perfect its frame, till it sinks in a gradual and convulsive death, is a horrible spectacle, though on a small scale.

"The shell of all Eggs, when newly laid, is nearly half as thick again as it is when the young bird has to penetrate it. Otherwise, especially in the case of some thick-shelled Eggs, those of the Guinea-Fowl for instance, the tender little creatures would be scarcely equal to the task. As to what becomes of the other part of the shell, there is an ingenious theory by Knapp. 'The shell of the egg appears to be designed for the accom-

plishment of two purposes. One of the offices of this calcareous coating, which consists of carbonate and phosphate of lime, is to unite with the white of the Egg and form, during incubation, the feathers and bone of the future young one; but as a large portion of this covering remains after the young are produced, its other object is to guard from injury the parts within!'"—*H. H.*

Shortly before the time of hatching arrives, the chickens may be heard to chirp and tap against the walls of their shell. Soon a slight fracture is perceived towards the upper end, caused by force *from within*. The fracture is continued around the top of the egg, which then opens like a lid, and the little bird struggles into daylight. The tapping which is heard, and which opens the prison doors, is caused by the bill of the included chick: the mother has nothing to do with its liberation, beyond casting the empty shells out of the nest. At the tip of the bill of every new-hatched chick, on the upper surface, a whitish scale will be observed, about the size of a pin's head, but much harder than the bill itself. Had the beak been tipped with iron to force the shell open, it would not have been a stronger proof of creative design than is this minute speck, which acts as so necessary an instrument. In a few days after birth, when it is no longer wanted, it has disappeared; not by falling off, I believe, which would be a waste of valuable material, but by being absorbed and becoming serviceable in strengthening the bony structure, minute as the portion of earthy substance is. And yet some people direct, that as soon as the chick is hatched, this scale should be forced off with the finger nail, because it is injurious!

All chicks do not get out so easily, but may require a little assistance. The difficulty is, to know when to give it. They often succeed in making the first breach, but appear unable to batter down their dungeon walls any further. A rash attempt to help them by breaking the shell, particularly in a downward direction towards the smaller end, is often followed by a loss of blood, which

can ill be spared. It is better to wait awhile and not interfere with any of them, till it is apparent that a part of the brood have been hatched some time, say twelve hours, and that the rest cannot succeed in making their appearance. After such wise delay, it will generally be found that the whole fluid contents of the egg, yolk and all, are taken up into the body of the chick, and that weakness alone has prevented its forcing itself out. The causes of such weakness are various; sometimes insufficient warmth, from the Hen having sat on too many eggs; sometimes the original feebleness of the vital spark included in the egg, but most frequently staleness of the eggs employed for incubation. The chances of rearing such chicks are small, but if they get over the first twenty-four hours they may be considered as safe. But all the old wives' nostrums to recover them are to be discarded: the merest drop of ale may be a useful stimulant, but an intoxicated chick is as liable to sprawl about and have the breath trodden out of its body as a fainting one. Pepper-corns, gin, rue, and fifty other ways of doctoring, are to be banished afar, together with their subjects, namely,

> "All the unaccomplished works of Nature's hand,
> Abortive, monstrous, or unkindly mixed,
> Embryos, and idiots, eremites, and friars,
> Into a Limbo large and broad, since called
> The Paradise of Fools, *to few unknown.*"

The only thing to be done, is to take them from the Hen till she is settled at night, keeping them in the meanwhile as snug and warm as possible. If a clever, kind, gentlehanded little girl could get a crumb of bread down their throats, it would do no harm; but all rough, violent, clumsy manipulation is as bad as the throat-tickling of the hard-fingered hangman. Animal heat will be their greatest restorative. At night let them be quietly slipped under their mother; the next morning they will be either as brisk as the rest, or as flat as pancakes and dried biffins.

Those who have ever undertaken the amusing task of tending a brood of chickens from the shell, must have observed the great change of apparent size which the first few hours produce. At the time when I had an affectionate assistant in such matters, we used often to remark, how impossible it would be to re-pack again in the same shell the creature which was contained in it only a little while ago. We certainly never tried the experiment, but the eye could measure with some degree of accuracy, besides allowing for the elastic coat of down which before had been flattened by moisture. How could the vivacious little wretch have made such a sudden start? Not from what it had eaten or drunk, certainly. The solution appears to lie in the fact which the best comparative anatomists have recorded, that the bodies of most birds are injected with air to a considerable extent. While the embryo remains in the shell, its vascular parts are compressed, or contain merely fluid for future nourishment, but as soon as the lungs come fairly into play, air is made to inflate many an unsuspected cavity, even, perhaps, to the tip of every filament of down. Chamælion-like, the chick makes a good meal on the atmosphere. A case in point may be seen when the shell of a chrysalis is disrupted by the emerging butterfly; and the process is so absolutely magical, that those who have never witnessed it will be amply repaid for their trouble, if they collect a few chrysalids (those of the gooseberry-moth, for instance) out of their garden, and keep them under a tumbler in their dressing-room, or on their side-board or writing-table, or wherever they are most likely to secure the chance of being in at the birth. The black, hairy, quick-running caterpillar, which is so common, may be secured, fed upon common groundsel, and will speedily be metamorphosed into a handsome tiger-moth. Ten minutes after it has burst its shelly covering,—

> "Not all the Queen's horses, and all the Queen's men
> Could get tiger-moth into his shell again."

It creeps out with a little moisture adhering to it, the wings appear merely rudimental, soon it is seized with a shivering fit, it grows larger with every successive attack of tremulousness, the wings may be seen to extend as a curtain is let down, the moisture is absorbed or evaporated, its breathing-places in its sides are at work, it is thoroughly injected with air, and none but those who know the whole truth would believe, on seeing the narrow case by the side of the expanded insect, that Euclid had been practically contradicted, and that the greater had been contained within the less. The chicks of Turkeys and Guinea Fowls exhibit this sudden expansion even more strikingly than those of Cocks and Hens.

But what are we to do with the new-come chickens? Let us leave them quiet with their mother six or eight hours, or till the next morning. Now is the time to listen to quackeries, and fooleries, and heaps of babble and rubbish, if we do not choose the better part of being as deaf as stones. How wonderful must be the productive energy which is at work in the universe, to replace the myriads of chickens and children that have been laid low by sage nursing! Whole pepper-corns, gin, laudanum, tight-swaddling, cramming, dips into cold water, suffocation with foul air, make us wonder that either biped, plumed or unplumed, is to be found in any other than a fossil state.

A roomy, boarded coop, in a dry sunny spot, is the best position for them during the first month; after which it may be left open during the day for the Hen to retire to when she pleases. In quiet grassy places, such as one sees on the skirts of green commons and by the sides of country churchyards, the Hen need scarcely be cooped at all. As to food, let them have everything which is not absolutely poisonous. Sloppy matters are better avoided till the little things are old enough to eat a few grains of *good* barley, which they are before it is usually suspected; afterwards they do no harm. A little wheat, of the best sample, will then not be thrown away upon them. Meat

and insect diet are almost necessary; but raw vegetables chopped small, so grateful to young Turkeys, are *caviare* to chickens. But whatever be the bill of fare, the meals must be given at short intervals; as much as they can swallow, as often as they can eat. The reader will please to remember that when he came into the world, all that was expected of him was to grow and be good-natured. He had not to provide his long-clothes out of his mother's milk, nor to elaborate pinafores from a basin of soaked biscuit; but for poor little chickens, the only known baby-linen warehouse is situated in their own stomachs. And with all their industry, they are only half-clad till flesh and bone stop growing for a while, and allow down and feathers to overtake them.

The period at which they are left to shift for themselves depends upon the disposition of the Hen. Some will continue their attentions to their chicks till they are nearly full grown, others will cast them off much earlier. In the latter case it may be as well to keep an eye upon them for a few days till they have established themselves as independent members of the gallinaceous community. For chickens in this half-grown state are at the most critical period of their lives. They are now much more liable to disease than when they were apparently tender little weaklings crowded under their mother's wings. It is just before arriving at this point of growth, that artificially hatched chickens are so sure to fail, whether hot air, hot water, or sheepskin, be the substitute for the mother's care. Mere incubation has long ago been performed artificially with success in various ways. Any lady or gentleman, at any time of the year, can effectually complete that process by means of a spirit-lamp and a sand-bath in their study or boudoir. The mere hatching of chickens deserves little credit, however ingeniously it is done. But to rear them on a great scale is the difficulty that has not yet been surmounted in this country. A visit to the purveyors of Poultry for the Million is not repaid by the sight of an approach to the

fulfilment of their great promises. They hatch, but they cannot rear, and are not likely to do so. The chicks for the first week or two look well enough, and it is not to be expected that the very first seeds of disorder should be apparent; but no farmer's wife would be pleased that her stock had the look of those that get to be six weeks or two months old. Compare the tables of mortality amongst infants in the French Foundling Hospitals with those calculated on the families of healthy English cottagers, and the contrast will be a guide to the relative merits of the natural and the artificial modes of rearing Chickens, Turkeys, and Guinea-fowl. And what becomes of the Hens belonging to such establishments which desire to sit, but are prevented on principle from doing so, on eggs at least? They are just put up to fatten as soon as they become broody, and after a certain time killed to be eaten. No one who knew anything about Fowls would select such for his table from choice. It cannot be expected that those Professors, who are unable to raise sufficient chickens for the supply of a small neighbourhood, should be able to communicate the art of affording plenty to a nation, even by means of a patented apparatus and an expensive license. Were all the chickens reared that are hatched by Hens alone, poultry would be much more abundant than it is at present. The artificial hatching of Ducks and Geese is a more promising speculation than the same attempt upon Fowls; but if it were entered upon to any extent, it would be found that the expenses of superintendence and nursing more than absorb all profit.

The artificial hatching described by Fortune (*Wanderings*, p. 78), as successfully carried on in Chusan, was only practised on Ducks; and the season when he saw it in operation was the end of May, a time of year when there would be little difficulty in rearing Ducklings so produced in England, if time and trouble were disregarded.

It would be easy to gratify the eye of the reader, and perhaps temporarily deceive his judgment, by a set of

tables speciously displaying the great profitableness of rearing poultry, but as our only object is to give information and sober advice, and not to excite a popular run in any direction by exaggerated or interested statements, we unhesitatingly recommend that those who set about keeping Fowls for the sake of mere gain, either from their increase or their eggs, use the utmost economy, abstain from the indulgence of all whims and individual tastes, and cautiously avoid overstocking themselves with any undue quantity, that would make an inconvenient demand either upon their provision or their attention. Those whose principal aim is to supply their household with poultry, will do so the most cheaply, though perhaps not the most pleasantly or the most conveniently, by purchasing at the nearest market. In the arithmetical schemes that are put forth, no allowance is made for casualties by accident, disease, or unfavourable seasons; nor can such drawbacks be calculated, except upon the roughest average. It is assumed that any unlimited number of Fowls can be kept in any premises, whether damp or dry, sheltered or exposed, in a luxuriant park or on a sandy heath, in a close town or in a rural homestead. No allowance, or a very inadequate one, is made for the labour demanded, which, though light, occupies a considerable portion of the day; nor for the damage done by a large head of poultry to buildings, gardens, stack-yards, growing crops of grain, and orchards. I have seen a flock of full-grown underfed Turkeys, perched in a clump of apple-trees, breaking the weaker branches by their weight, and devouring the fruit. What would become of plums and greengages in their presence? Not a few persons resident in the country have felt the nuisance of being in the close neighbourhood of an extensive poultry-keeper, whose marauding stock were committing perpetual trespasses and depredations in their foraging rambles out of bounds. The more, therefore, these arithmetical statements enter into detail, the less are they applicable to special instances; and disappointment is the fate of

those who put faith in them. Half the poultry that is sent to market is an encroachment by the farmer's wife upon the returns that would otherwise be received by her husband, whose corn-stack she diminishes, and the time of whose servants she occupies. Supposing the interest of the couple to be one, the lady's receipts from poultry are in great measure cash taken out of one pocket and put into the other. If the married pair have separate purses, as will sometimes happen, the case becomes little better than one of domestic robbery. But if, as is usually the case, the poultry and the food to maintain them be kindly given by the Master to a wife or a child, as a source of pocket-money and healthy and suitable amusement, let the donation be considered in the light of an allowance granted, not of a profit made.

We now assume our Fowls to have got their full growth, or nearly, as the Cocks at least increase somewhat in size till their third year. The breeder will at this period have to determine which birds he retains for stock, and which are to enjoy a less extended existence. On the process of fatting Fowls, little that is new can be offered, and tastes differ so exceedingly, that almost every family has their own particular mode. Some think a young Fowl killed by dislocation of the neck, not by bleeding, and without any fatting, hung up in the feathers a few days in the larder, like game, the greatest luxury; others like them to be brought by confinement and select diet, to the greatest point of delicacy and insipidity. For this purpose rice may often be obtained at a cheap rate. It should be boiled, not enough to lose its granular form, in milk: meat broth used instead of milk is nourishing and fattening, but diminishes the whiteness of the flesh and the delicacy of the flavour. If Fowls were brought to eat uncooked rice, it might prove unwholesome by swelling in the craw. A rice diet has been asserted to cause blindness in Fowls, but after considerable experience I have never verified the fact. Possibly such a result might be caused by the uncooked grain. Cramming

is quite unnecessary: cleanliness in all cases most expedient. If any coarse or rank food is used, such as tainted meat, rancid fat, or fish scraps, it will be apt to impart a corresponding taint to the flesh. The purer the diet, the more delicate will be the flavour. Rice boiled as above directed, or barley-meal and milk, are either of them excellent articles for the purpose, and easily obtained. The locality and the cost price must often determine the matters employed, care being only taken to avoid all that is likely to prove hereafter offensive to the palate. For it is an old notion, confirmed by modern experience, that even laying Hens should not be allowed to eat unsavory or strong-tasted substances, lest their eggs become tainted with the flavour.

"Let bitter herbs be avoided, particularly wormwood, for Hens that have eaten it lay extremely bitter eggs. Some aver that the eggs from Hens that have eaten impure food, are mostly putrid and even poisonous, and if they have fed filthily, excrementitious. They should also abstain from lupines (which are bitter) for the same reason, and also because they produce small swellings under the eyes, as Crescentiensis observed; and Palladius tells us, that unless these swellings are gently opened with the needle and the core extracted, they blind the Fowls." —*Aldrovandi.* It is certain that a peculiar flavour is perceptible in the eggs of those Hens that have fed much about dung-heaps, or run principally in fir plantations.

A well-fatted Fowl is undoubtedly a more economical dish than a lean one. But Pliny tells us, with an expression of disapprobation, that the people of Delos were the first inventors of the luxury. He mentions the sumptuary laws, that in old Roman times were passed to restrain such indulgencies, and how they were evaded. This seems, in him, to be very like affectation; for living, as he did, in the best society of a most voluptuous and self-indulgent age, he must often, in the character of an accessory after the fact, have been guilty of the misdemeanour of fatting Fowls.

Willughby is a much more sensible fellow. "No better flesh in the world (in my opinion) than that of a year-old Pullet well fed, or a fat Capon; nothing inferior to, not to say better than that of a *Pheasant* or *Partridge*. Some there are that think, and we also incline to their opinion, that the flesh of those Hens is most sweet and delicate which are fed at the barn-door, running about and exercising themselves in getting their food, by scraping with their feet. And that the flesh of those is less pleasant and wholesome, that are shut up in coops and crammed. Some are so curious that they think those limbs most wholesome which are most exercised, and therefore in Wild-Fowl they prefer the wings, in Tame, the legs."

The old Dutch mode of fatting is by no means a bad one:—

"Cardan is the authority, that if you mingle fat lizard (?),* saltpetre, and cummin, with wheat flour, and feed Hens on this food, they will get so fat, and the people who eat them will grow so stout, as to burst. John Jacob Wecker records that he learnt the following secret of fatting Hens from a certain Hollander. 'In the kitchen,' he says, 'make to yourself a box, divided into many little boxes, each one with its own opening, through which the Hens can thrust their heads out of doors, and take their food. Therefore, in these little boxes, let youthful Hens or Pullets be incarcerated, one in each: let food be offered every hour, drink being interdicted for the time. But let the food be wheat, moderately boiled. The little boxes ought to be pervious below, that the excrements may pass through, and be diligently removed every day. But the Hens ought not to be shut up beyond two weeks; lest they should die from too much fatness. I am told, also, that among some people they get gloriously fat, and quickly, if beer is offered them for drink, instead

* May not "lacerta" in the original text be a misprint or slip of the pen for "lacerato?" If so, "fat lizard" should be replaced by "torn or shred fat."

of water; also, that if they are fed on brewer's grains, they lay more, as well as larger, Eggs.' "—*Aldrovandi.*

A correspondent of the Agricultural Gazette thus describes the method which he successfully practised for many years in India:—"The fowl-house, or rather feeding-house, for only fattening Fowls were permitted to be in it, was kept as cool as possible, (in Bengal, remember,) and almost dark. Each Fowl had a separate pen; they were fed once, and only once a-day, with rice, boiled as rice ought to be for Christians; not to a mash; but so that grain from grain should separate. The quantity to each Fowl was about two ounces (before boiling). For the first three days to each was given about a tea-spoonful of 'ghoor,' a coarse sugar—about half as much again of treacle would be an equivalent. This commencing with sugar was held to be very important; it cleansed the birds and disposed them to fatten; no water was given; neither was any chalk or gravel, both being unknown in the country. In about three weeks the Fowls were generally fat. I never, in England, have seen finer than those I have killed within that time, not even at Mr. Davis's, of Leadenhall Market. If they did not fatten in three weeks, we supposed that they did not mean to fatten, but this was a rare occurrence, and proceeded, no doubt, from some ailment beyond my power of discovering; but, fat or otherwise, they were never tough. To boil the rice in buttermilk is by far preferable to boiling it in water; let the Fowls be as young as you can, if of full growth. Many people run away with an impression that Fowls fed on rice will go blind; it is dirt and sourness that cause it. How often do we see a trough loaded with meal food, sufficient for two or three days, placed before the unhappy prisoner in the pen, who cannot escape from it, or seek other and sweeter food! When the Fowls have done feeding, the trough should be removed, cleaned, and exposed to the air until the next day's feeding time. At my factory, in India, the troughs were every afternoon thrown into a pond; there they remained until next

morning, when, after an hour or two's sunning, they were returned to the coops: no blindness was known there."

We may observe that a temperature which feels cool in Bengal, would be thought warm here; and that, in this country of rapid digestion, a single meal a day is insufficient to fatten Fowls. It is a great point to keep them without food the first twenty-four hours they are shut up, allowing them to have drink only. If food be offered to them as soon as they are deprived of liberty, they will sulk and refuse it, and, perhaps, be several days before they feed heartily; but, if they be starved till they feel a craving appetite, hunger will overcome their sullenness, and they will afterwards greedily devour their allowance.

The oldest and toughest Fowls may be made into a savoury and nutritious dish by the following method, which is given as a tried and warranted recipe, because such birds are so often pronounced uneatable, thrown away, and wasted.

When the Fowl is plucked and drawn, joint it as for a pie. Do not skin it. Stew it five hours in a close sauce-pan, with salt, mace, onions, or any other flavouring ingredients that may be approved: a clove of garlic may be added where it is not utterly disliked. When tender, turn it out into a deep dish so that the meat may be entirely covered with the liquor. Let it stand thus in its own jelly for a day or two (this is the grand secret); it may then be served in the shape of a curry, a hash, or a pie, and will be found little inferior to pheasant under similar circumstances.

The cookery of the middle ages abounded in practical jokes. Here is a very witty one with a Chicken. "If you wish a Chicken to jump in the dish, take," says Albertus Magnus, "quicksilver, and powder of calaminth, and pour them into a glass bottle, seal it, and put it inside the hot Chicken: for as the quicksilver gets warm, it moves itself, and will make the chicken jump." The brilliancy of this trick is only to be rivalled by the

epigrammatic point of the question, "Did you ever see *a bun dance* on a table?"

A specimen or two may be given of the savoury messes in which our great-grandfathers delighted.

"The other delicious Broths, which none but the Rich can afford, are, the Bisk* of Pigeons; the Pottage of Health; Partridge *Broth* with Coleworts, &c. &c., and the *Pottage of Fowls with green Pease.* We put the Fowls to boil with Broth, and skim them well; then pass the green Pease through a Frying-pan, with Butter, or melted Bacon; and afterwards have them stew'd a-part, with Lettices; and when the Fowls are done, we mix the Broth and Pease together, and send it to the Table.

"*Chickens* are roasted either larded, or *barded, i. e.*, covered before and behind, with a thin slice of Bacon, and wrapped in Vine-leaves, in their Season.

"*Fowls* are *pickled* with Vinegar, Salt, Pepper, and Lemon-peel, and are left in their Pickle till they be wanted; when wanted, they are taken out, put to drain, and after they have been fried in Butter, they are put to stew for a few Minutes, in some of the Pickle, and then carried to Table."—*Dennis de Cœtlogon.*

Fowls for cooking that are required to be sent to a distance, or to be kept any time before being served, are plucked, drawn, and dressed immediately that they are killed. The feathers strip off much more easily and cleanly while the bird is yet warm. On special occasions, such as Michaelmas, for Geese, and Christmas, for all sorts of Poultry, when large numbers have to be slaughtered and prepared in a short time, the process is expedited by scalding the bird in boiling water, when the feathers drop off almost all at once. But Fowls thus treated are generally thought inferior in flavour, and are certainly more likely to acquire a taint in close warm weather, than such as are plucked and trussed dry. The Norfolk poulterers, especially those in the neighbourhoods of Norwich and Great Yarmouth, may, in

* Derived from *biscuits*, twice cooked.

this art, challenge the whole world for skill and neatness. All bruises or rupturing of the skin should be avoided. A coarse half-worn cloth, that is pervious to the air, like a wire safe, and perfectly dry and clean, forms the best wrapper. The colour of yellow-skinned Turkeys, which, however, are equally well flavoured, is improved for appearance at market by wrapping them twelve or twenty-four hours in cloths soaked in cold salt and water, frequently changed. For the same purpose the loose fat is laid first in warm salt and water, afterwards in milk and water for two or three hours. The Essex mode is to dust with flour, both inside and out, any fowls that have to travel far, or hang many days in the larder.

Capons would properly belong to this part of our subject, but we have purposely avoided giving any description of their manufacture; not so much because of the cruelty of the operation—for we are constantly inflicting equal pain on animals in cases which are really necessary, which pain, however, is soon forgotten—but because it is, in the first place, an unnecessary refinement, and, in the second place, the torture is *not* forgotten, but the creature is converted into a miserable moping hypochondriac, whom it is mercy to kill and eat. To my own taste their flesh is insipid, flavourless, and fulsome, quite inferior to that of Fowls as we usually have them; those who are dissatisfied with a fat Pullet, or a plump Cockerel, must surely want a little wholesome exercise of mind and body to restore a healthy appetite. Fasting, or hard work, even, might do no harm in such cases.

But Capons, in point of fact, are getting out of date, and taking rank with oxen roasted whole, and other middle-age barbarisms. They are now rarely to be had in London; and, when procurable, are very expensive, but not at all unfairly so, when it is remembered that two or three Chickens may have been sacrificed before one Capon has been nursed into convalescence. I venture to predict that those who try their skill upon a brood of their own, not other people's Chickens, will not soon

repeat the experiment. That they may be had in tolerable plenty in the South of France, and with difficulty in England, is sufficiently explained by the difference of climate alone. But, in whatever climate, they must be classed in the list of uncalled-for luxuries, of unnecessarily unnatural viands, such as diseased Goose-liver pies, fish crimped alive, or even those frightful and portentous dishes recorded by Dr. Kitchener in "The Cook's Oracle." But if Capons must be made, any person of common humanity will procure the services of a practised adept in the art. A gentleman of fortune obtained an old man from Dorking to act as head keeper over a valuable collection of Poultry. "Daddy," as he was called, was an expert caponizer; but he is gone to his grave without having communicated his secret of manipulation, and I suspect that the whole race of Dorking Daddies is dying out under similar circumstances. We will not disturb their bones, in search of the mystic formula. But one thing about Capons may be harmlessly resuscitated. As—

> ——— the toad, ugly and venomous,
> Wears yet a precious jewel in his head,

so the poor Capon, which, though ugly, is not half venomous enough, carries a valuable gem in the part which is usually antithetically opposed to the head. "The Allectorius is a stone like crystal or limpid water. It is found in the liver of a Capon at the end of three years. It is never larger than a bean: after this stone is formed in the Capon, he never drinks." The Ortus Sanitatis further informs us that ladies who wear the jewel Allectorius are sure to be pleasing in the eyes of their husbands.

Neither can there be any harm in giving directions "To dress *Capons with Oyster Sauce*. The Capon must be *larded*, *i. e.*, the Fore and Hind-part covered with a thin Slice of Bacon, and over it a buttered Paper; then

it is put to roast; the Oysters must be fried with the Dripping of the Capon, and seasoned while frying, with Mushrooms, an Onion, and a small bundle of fine Herbs: When they are well fried, they are put in the Body of the Capon, the Bundle of Herbs excepted, before it is quite done."

Aldrovandi tells us that in Capons, which were more the fashion in his days than they are now, the hackle, tail-feathers, and *spurs*, grow to a much greater length than in Cocks.

But whichever way of fatting and dressing Fowls is adopted, it will be as well to beware of the Chinese mode of preparing them for market, although it has had its followers even in this country.

"The method of buying provisions in *China* being by weight, the tricks the *Chinese* made use of to augment the weight of what they sold to the *Centurion* (Commodore Anson's ship) were almost incredible. One time a large quantity of Fowls and Ducks being bought for the ship's store, the greatest part of them presently died. This spread a general alarm on board, it being apprehended that they had been killed by poison; but, on examination, it appeared that it was only owing to their being crammed with stones and gravel to increase their weight, the quantity thus forced into most of the Ducks being found to amount to ten ounces in each. The hogs, too, which we bought ready killed of the *Chinese* Butchers, had water injected into them for the same purpose; so that a carcass, hung up all night that the water might drain from it, had lost above a stone of its weight. And when, to avoid this cheat, the hogs were bought alive, it was discovered that the *Chinese* gave them salt to increase their thirst, and having thus excited them to drink great quantities of water, they then took measures to prevent them from discharging it, and sold the tortured animal in this inflated state."

Our indignation rises as we read; but before it boil over on the heads of pagans and infidels, let us remember

that we, professing a religion of love and mercy, are guilty of a practice equally cruel, but more stupid, because our barbarity deceives nobody, nor is the animal relieved of its sufferings by death. Who has not seen our miserable milch-cows staggering to a cattle-market, with their udders distended to the utmost limit that they are capable of bearing, looking piteously at the hungry calf by their side, which is muzzled with a basket, or simply with whip-cord? Everybody that goes to buy a cow at a public fair or market, knows that she has not been milked for twenty-four hours, or for three or four days, according as her udder is capable of distention: no wonder that when she is at last relieved, she can scarcely bear the operation, flinches at the first touch, is restive, and, perhaps, has the garget soon, and is good for little ever afterwards. The Chinese, however, have a long-sighted cunning in their proceedings, of which I do not think that even we can yet be justly accused.

"When the Commodore first put to sea from *Macao*, they practised an artifice of another kind; for, as the *Chinese* never scruple eating any food that dies of itself, they contrived, by some secret practices, that the great part of his live sea-store should die in a short time after it was put on board, hoping to make a second profit of the dead carcasses which they expected would be thrown overboard; and two-thirds of the hogs dying before the *Centurion* was out of sight of land, many of the Chinese boats followed her, only to pick up the carrion. These instances may serve as a specimen of the manners of this celebrated nation, which is often recommended to the rest of the world as a pattern of all kinds of laudable qualities."—*Anson's Voyage round the World.*

"But to return," says the good Chaplain who wrote the narrative,—a hint we will now take.

There are a few cases, in which Fowls are kept under peculiar circumstances, or for certain objects, that demand some special notice. One is where parties, with plenty of room and range, choose to have several different

varieties, and yet wish to preserve the breeds pure and distinct, to some extent at least, without the trouble of keeping the birds in ward all the year round. A frequent mode is to billet various families of Cocks and Hens amongst the cottagers in one's own neighbourhood. Those labourers, and their wives, who are fond of Fowls, will generally contrive to have some barn-door mongrels or other, and may therefore just as well be supplied with a distinct and valuable breed. A person living in the country, in easy circumstances, is not likely to cultivate the Poultry fancy for the sake of the few shillings he may make by it at the end of the year; and, therefore, may be supposed willing to rejoice the heart of a poorer neighbour, by the gift of a Cockerel and two or three Pullets. By these means he can secure the continuation of any choice and favourite variety, besides attaining the higher object of strengthening those friendly feelings, which ought to be cultivated as far as possible between the rich and the poor.

In addition to this best plan, the same object may be attained by secluding the Fowls in question, when a sitting or two of eggs are particularly required, in some light airy outhouse, feeding them well, and taking the precaution to reject the first two or three eggs. At other seasons of the year they may be left together. They will become acquainted with each other, find their own level, form their particular friendships, and cease to quarrel *much*. The contrast of their various size, shape, and colour, is lively and amusing on a sunny day. It is also curious to watch what odd and unexpected articles are now and then produced by this chance-medley of breeding. The Cocks soon learn a discreet course of behaviour, both towards each other, and towards the Hens; and there are seldom more addled eggs than would result from cold or accident.

Those, on the contrary, who only want to keep a few Hens for the sake of the fresh-laid eggs required by some invalid wife, or child, or parent, may perhaps derive

assistance from the following system of management, which has been kindly communicated to me by Mr. Leonard Barber:—"There is one thing I think necessary to impress upon those who keep Fowls in a confined place, which is cleanliness. The droppings in their roosting place should be taken up every morning, and a handful of dry ashes strewed under their perches. I have only a confined yard in which to keep my Fowls. The plan I adopt is to give them every day plenty of fresh cabbage leaves, and once or twice a week I have some onions chopped up for them, of which, after a time, they become very fond. I let them have a plentiful supply of burnt oyster shells. I put the shells into the fire until they are red hot, and well burnt. I then break them into small pieces with the fingers, but not into powder. I am satisfied that this is much better for them than crude lime; they eat great quantities of it. Their other food consists of the best barley and oats, and to compensate for the want of insects, I occasionally give them a little raw meat. By adopting this plan I keep them in decent health. The only thing they appear to want is more exercise, which, I think, is the reason I cannot rear chickens well, for with all my attention I find they are stunted in their growth, no doubt from the want of a sufficient run." I can only say that a Cockerel which this gentleman did me the favour to send me, showed no symptoms of stunted growth. He was a magnificent black Spanish fellow, with all the distinctive marks of the breed highly developed. He has since vanished, and is now doubtless the pride of the thief or the receiver, in some sequestered dingy back lane. What a contrast such a situation for Fowls is, to that described by another correspondent. "I wish you could see my poultry-yard, which is in fact no yard, being part of our park, where I always have the young broods, and as some of it is now a hay-field, it is a nice place for them to run about in."—*H. H.*

It has been suggested that none of the writers on Poul-

try have dwelt sufficiently upon the profit and convenience of those who keep a few Fowls for the sake of their eggs, having everlasting layers, with perhaps one or two sitting Hens to enable them to keep up their stock. If the sitting Hens were such as lay *brown* eggs, and the others *white* ones, it would save trouble. This arrangement could easily be carried out by selecting one or two Game or Cochin China Hens that lay dark eggs, and are all excellent incubators, and having the laying Hens Black Spanish, or Silver Hamburgh, or the Andalusian variety, imported by Mr. Barber.

Another plan, quite feasible, is to keep no Hens whatever, except those which lay everlastingly, and to make hen Turkeys perform the duty of incubating for all parties.

The following hint may be useful to those who are not provided with a stud of everlasting layers :—" Amongst all the remedies I have seen recommended for diseases in Poultry, I have never seen Jalap mentioned, and *I* have ever found it most efficacious ; indeed, for many years I have never used any other : as it appears to me to be the natural medicine for Fowls. It is astonishing how soon it sets them up. In the country, where they have a good run, they may not require so much physic ; but even there I should imagine it would be occasionally useful : as for instance, when they have had the incubating fever on them late in the season, and I have not wanted them to sit, one or two doses have relieved them from it entirely. In short, with me, it is a regular ' Morrison's Pill' for Fowls ; as it seems to cure all their complaints. The dose for a full-sized Fowl is 15 or 16 grains. I moisten a small piece of crumb of bread about the size of a hazel nut, and mix the powder jalap with it."

An inquiry has been made whether common salt would not be a good thing to promote laying in Hens that were necessarily kept in close confinement. But among the most experienced practical rearers of Poultry there is an old, and I believe well founded prejudice against their eating salted food, even in very small quantities. I have

seen in some books Glauber's salts recommended, but should be sorry to try them, except as an experiment on a lot of worthless or diseased Fowls. Gallinaceous birds reared by the sea-side or on the banks of a salt-water river, avoid the saline stream, and search for food and drink as far inland as they can range. I know not either how common salt could be administered to them. It is more than doubtful whether the Hens would pick it from the ground in its crystalline form, and it would be difficult to distribute it in equal doses by means of bread, &c., soaked in salt water: the chances are that some of the Hens would be poisoned. Pigeons, I think, are the only domesticated birds to whose health salt is beneficial, and they prefer it in combination with animalised matters; the more offensive it is to our senses, the more agreeable it appears to be to theirs.

"I was told the other day of a gentleman at Highgate, who knowing that salt was beneficial to Pigeons, gave some to his Hens, in consequence of which they all died. I have found a little hemp-seed efficacious for making them lay, and a little good ale (I give them all that is left at table) will have that effect—not bread soaked in ale; for it is a golden rule to know that all moist food is injurious to Fowls, unless they are intended shortly for the table. All cooked vegetables, except potatoes, I have found bad for them."—*L. B.*

An abundant supply of lime in some form should not be omitted; either chopped bones, old mortar, or a lump of chalky marl. The shell of every egg used in the house should be roughly crushed and thrown down to the Hens, which will greedily eat them. A green living turf, like those given to larks, only larger, will be of service, both for its grass, and the insects it may contain. A dusting-place, wherein to get rid of vermin is indispensable. A daily hot meal of potatoes, boiled as carefully as for the family table, then chopped and sprinkled or mixed with pollard will be comfortable and stimulating. The French plan, namely bread soaked in hot *vin ordinaire*, beer, or

cider, appears from experience to be better suited to fatting than to laying Fowls. After every meal of the household, the bones and all other scraps should be collected and thrown out. Hens are great pickers of bones; I have seen a Hen devouring the flesh and cleaning the skeleton of her dead husband, doubtless on the native Australian principle of respect and affection for the deceased.

It is a singular fact, that pullets hatched very late in Autumn, and therefore of stunted growth, will lay nearly as early as those hatched in spring. The checking of their growth seems to have a tendency to produce eggs; of course very tiny ones at first.

Fowls that are kept in close confinement will greatly miss the opportunity of basking in the sun: warmth is almost as necessary for thriftiness as food. Even in Italy, it was recommended by Columella that "Fowl-houses ought to be placed in that part of the farm which faces the rising sun in winter: let them be joined to the oven or the kitchen, so that the smoke may reach the birds, it being particularly healthy for them." Modern amateurs have thought it would be a good plan to have an Arnott or Dean stove erected in their fowl-house, which could be lighted an hour before the Cocks and Hens went to roost. Sharp weather is always a sufficient excuse for the unproductiveness of Hens; but it may be suggested that there are cases in which Fowls do lay, without their owners being much the better for the eggs. This, however, is less likely to happen in an aviary, if I may be allowed so to term it, than in the farm, or the unenclosed poultry-yard. It is an unfortunate fact, that in the country, where Fowls are allowed unlimited range, choice specimens are remarkably apt to disappear; and if they do not, their eggs do. The proprietor is sure of just as many of the select kinds as he can himself lay hands upon. He may often have the satisfaction of buying in a neighbouring village a fine brood of chickens, hatched from eggs purloined from himself, and be thus considerately saved all

trouble of rearing them. These agreeable tricks are played by a set of rascally half-poaching pilferers, who are connected with the lowest class of dealers. If any fear of detection arises, the "fancy" birds are immediately forwarded to the metropolis, or some other large town at a distance.

The curiosities and absurdities of the literature of poultry-breeding are inexhaustible. One "Ornithologus" states, on the report of his people, that in order to obtain all female chicks from a sitting of eggs it is only necessary to set the Hen while the moon is in the full, and to prefer such eggs for the purpose as have been laid when the moon was at the full, *and also* to contrive that they be hatched at the full moon; but Aldrovandi, who quotes him, remarks, that it would be difficult to combine all these conditions, seeing that chickens are hatched in three weeks, and that there are four weeks from one full moon to another.

The same Ornithologus testifies to having read in a certain German manuscript, that if eggs are stained with any colour, chickens of the same hue will be produced. Others direct that the aviaries in which they are bred should be covered, in every part, with white hangings; with what view is not apparent. But whoever wishes to have most beautiful chickens, "visu jucundissimos," must pair his Hen with a Cock Wood Pigeon, or Partridge, or Pheasant. Directions, too, are given from Aristotle, for obtaining chickens with four wings and four feet.

It is not our intention to enter minutely into the physicking and doctoring of Fowls. One or two authentic cases will be more instructive than a score of prescriptions. The epidemic diseases to which they are subject are more easily warded off by prophylactic than remedial measures. In bad cases, either of roup or gapes, it is, nine times out of ten, more humane as well as cheaper, to knock the poor little sufferer on the head at once, than to let it linger on to almost certain death. It is natural to try to do all we can either for an old favourite, or for a valuable spe-

cimen ; but even when we succeed in restoring the patient, it is usually only a temporary recovery; and it cannot be wise to keep such valetudinarians to become the parents of future broods.

" When I came home the other day from the country, I found one of my favourite Hens, which had lost nearly all its feathers (being in full moult) in a sad way. It appeared as if it had got a wry neck, and was *tipsy*, as it kept falling down, and neither the Cock nor any of the other Hens would go near it. I examined it, and found there was nothing in its crop, and it was very thin. I immediately gave it one grain of calomel in a small bread-pill, and three or four hours afterwards I gave it fifteen grains of jalap, and, as it was evidently better the next day, I repeated the jalap pill for four successive nights, and it now appears quite well and feeds heartily. After the first dose of jalap its droppings were green and highly offensive. I mention all this, as I have never seen a Fowl similarly affected."—*L. B.*

The roup is an affection of the head, from which birds that are really attacked seldom recover, and when recovered, are still more rarely strong afterwards. It is the " pituita " of the Roman writers, which they characterise as " infestissima," most hostile to Poultry. A copious and offensive discharge flows from the nostrils, in bad cases from the eyes also ; indeed, the whole head occasionally seems to suppurate. The creature is stupified by suffering, and blinded also by the disorder. All that can be done is to keep it in a warm dry place, to wash the head frequently with warm vinegar and water, to cram the bird with nourishing food when it cannot see to eat, and to protect it from the cruelties of other Fowls. A solution of sulphate of zinc, as an eye-water, is a valuable cleansing application. Rue pills, and decoction of rue, as a tonic, have been administered with apparent benefit. Cleanliness, warmth, dryness, and good feeding, will, in a measure, keep off the evil, but we cannot expect entirely to eradicate it from a race of creatures so far removed from their

native country as our Cocks and Hens are. Fowls are seldom affected by the roup before they are at least three quarters grown.

We now produce one or two surgical cases.

"Perhaps it may not be generally known that Fowls are injured by eating hops. I mean the hops that have been used in brewing and thrown aside. I had a Cock of a valuable breed that appeared ill one morning, moping, and scarcely eating any food at all. We tried all the usual remedies without effect, when it occurred to me that the crop was more distended than ordinary, I therefore made an incision, and took out a vast quantity of these hops, evidently the cause of the disorder. The bird now grew better, and had the crop been relieved earlier, I think would have done well, but it was now too much weakened, and died within a week after."—*H. H.*

Another patient was treated with better success.

"The case of the Silver Hamburgh Hen, who was poisoned, and recovered again, stands thus. She was a very errant Hen, and the only one that I could not keep in the proper fowl-yard. Now I had for some time been feeding the Fowls on *soft* food, and one Saturday afternoon I saw the Hen in question reeling about as if she were drunk; presently she put out her legs quite stiff and fell down with scarcely any symptoms of life remaining. I took her up and felt her crop, when I found she had been eating *hard* food. It then occurred to me that she must have been poisoned by corn laid by my neighbour to destroy the sparrows; which afterwards proved true. Having a great partiality to that breed of Fowl, and moreover the Hen being a gift from you, I felt great reluctance to lose her; and finding there was no chance of saving her but by rough means, I resolved to open her crop, which I did by making an incision of about three-fourths of an inch, or an inch long, with my penknife, and emptied her crop of as much as it could possibly hold of wheat poisoned with nux vomica. I then poured

tepid water into her mouth, and rinced her out well that way, letting it run out of her crop ; after which I carefully sewed her crop up, and gave her three antibilious pills, not having any jalap in the house. It may be remarked by the way, that a Hen can apparently take as much jalap or pills, without inconvenience, as a man. Between hope and despair, I put her at night into a warm place, and left her bread and milk for her supper. Next morning, when I went to see her, I found her as lively as possible : she made her escape from me at once, and was immediately joined by her husband. She had laid an egg during the night, and always afterwards was as good a layer as any other Hen. But although I could not myself find any fault with my execution of the above surgical operation, the Hens her companions did, and were so anxious to unlace her boddice, and otherwise ill-treat her, that I was obliged to keep her away from them. Some weeks after the operation, the cotton with which I sewed her up came away from her ; but before that time she lived with the rest, and never, except on the day she took the poison, showed any symptoms of illness. She is at present alive and well, and yclept Susannah."—*G. P. S.*

The gapes is an inflammation of the respiratory organs, causing Chickens to gasp for breath, and generally proving fatal. Various forms and degrees of inflammation of the lungs, accompanied by fever, are the great scourge of the young of gallinaceous birds. Some attribute the fever to their being overpowered by too much heat, but I cannot believe such to be the cause of the symptoms. "Some of my Chickens about ten days old, have died lately of a sort of low fever, growing thinner and thinner in spite of the best attendance and most nourishing food. I cannot find out the cause, except their being too much exposed to the meridian sun, and have obviated it accordingly."—*H. H.* But a wetting in a sudden shower, a run through long grass before the dew is off, an insufficient or irregular supply of food and drink for a single day, are any of them sufficient to produce a similar disappointing result. With

Chickens at a more advanced age, one very likely cause is the Hen being permitted to go to roost, leaving them to take care of themselves during weather that is too cold for them to do without the warmth of their mother, instead of her being confined with them all night in the coop. Or when the coop has been left abroad in a garden or on a lawn, I have known the family to be attacked by a rat or a weasel; the Hen has given the enemy a warm reception, and the little ones have escaped for the time by squatting in strawberry beds, and behind box edgings, but they have all subsequently died from their night's exposure. If these points of mismanagement are carefully avoided, the malady will rarely make its appearance. Some cruel French experiments are on record, in which Chickens were purposely brought to an incurable state of inflammation, by subjecting them to these baneful influences.

In some cases the presence of parasitic worms in the air-passages is a further aggravation of the inflammatory symptoms. In the elaborate article on Bronchitis in the "Penny Cyclopædia," a figure is given of one of these annoying creatures. It is stated that in quadrupeds the bronchial tubes, and the windpipe, and often the larynx and the fauces, are filled with small worms, forming a kind of coat mixed with the mucus, or connected together in knots of various sizes. The disease is said to be *either* produced, or much *aggravated* by the presence of these worms, and the irritation which they produce. No notice, however, is taken of the worms which sometimes infest Fowls similarly affected.

Having never detected any such worms in Chickens that had died of the gapes, and believing that all the apparent symptoms were to be accounted for by inflammation caused by cold and wet, I began to doubt the existence of the parasites, and stated as much to a gentleman, who replied, "I wish to make you a little less sceptical about the fasciolæ. I used to think as you do, that it was merely inflammation, but a little dissection of

the trachea soon showed me the worms adhering to the inner membrane of the windpipe. I have actually found as many as seven or eight in a single individual. If you wish to be convinced, cut off the neck of the next Chick that dies, the larger the better for investigation, and open the trachea gently with your penknife, and your doubts will be set at rest for ever. You are certainly right so far, that no Chick can be cured that is either very young, or very far gone in the disorder. But if not too young, and taken in time, the fasciolæ can easily be either brought up by the insertion of a wire or feather, or so loosened that the bird can cough them up. The inhalation of tobacco smoke, and other useless and uncertain modes, are ten times more distressing to the Chicken, and do not produce the desired effect.

"Those writers, too, are totally wrong who recommend the attempt to destroy fasciolæ by thrusting down a straw and oil into the windpipe. Pray do not try the method, as I have suffered enough by it; the straw being a bad thing in itself, and the oil, the smallest quantity of which stops respiration, and is therefore used by entomologists to kill insects, still worse. Several Chicks have died under my hands by it. But the proper and only successful way is, adroitly to put a small wire, or feather without any web, except at the farther end, down the windpipe. Give the wire a few turns, and the fasciolæ will come up at the end, or the bird will cough them up. This will, of course, only do for Chicks not less than a fortnight or three weeks old; younger ones will not stand it, and must be left to their fate, unless turpentine will save them. Smoking them in a watering-pot, after Montague's plan, is a doubtful remedy, and much more punishment to the birds.

"This season (1848) the fasciolæ have troubled me a little, and I have extracted some, but my hand is not in for it this year. The disease seems more a slight annoyance and hindrance to their growth, than the fatal sweeping pest it is sometimes. I thought I would try turpentine,

and find it, as I expected, perfectly useless. As, however, the fasciolæ are sometimes too small to be brought up, turpentine might be of advantage to dip the end of the wire or feather before putting it down the trachea.

"I do not think fasciolæ are ever engendered by wet; but Chickens that have the disorder, in itself a weakening one, become very much affected by a degree of damp that would not otherwise have injured them. Fasciolæ have raged with me in the driest and hottest summers. You will observe in those I sent that each worm is furnished with a large round head, and mouth, like the head of a pin, by which to attach itself to the inner membrane of the trachea. A larger specimen than the one I sent (it is about an inch long) has not yet occurred to me; but I know not how large they may grow. My way of late years has been to confine the Hens very much in large coops, and move them to entirely fresh places every other day, when the Chicks forage for insects. There is one thing with regard to the number of Chickens asserted to be reared by the Chiswick hydro-incubator, which I cannot understand, viz., how so many young birds can be reared together without producing disease, and especially the fasciolæ or gapes. In my own experience (and in some seasons we have killed one hundred and seventy for the table in the course of the year) I am generally obliged to move the broods from yards and houses to open fields, and if a place is selected where no Chicks have ever been reared, so much the better. How Cantelo manages I know not: perhaps his establishment has not yet been many years in the same place. On a farm newly built, and ground reclaimed, I would undertake to breed any number, as this overcrowding (which Mowbray called the 'taint') is the origin of nearly every disorder."—*H. H.* These are useful and practical remarks; but it will be only doing justice to the merits of turpentine, which is a powerful vermifuge, to give the report of another case.

"I have not been unsuccessful—or rather, I should say, a deaf and dumb brother of mine—in raising Fowls

this year (1847). My first two trips of Chicks had the 'gapes' very badly. I gave them a little spirit of turpentine in rice, and afterwards put a little salt in the water given to them, and saved sixteen out of twenty. To all the Chicks since hatched, I gave salt in their water, and I have about eighty without any sickness. The reason of success from this treatment is very clear. The 'gapes' are merely bronchitis. The worms are formed in the stomach (?), and, if you put an ounce of unslaked lime into eight ounces of water, and draw it off, adding to this some salt, and put about a table-spoonful in the water the Chicks drink, the insect is destroyed in the *stomach* with certainty; salt alone, regularly given, will have this effect. When the insect gets from the stomach into the windpipe, there is a difficulty. But spirits of turpentine are absorbed into the lungs, and the breath discharges part of the spirits through the windpipe, and thus also destroys the worm. The common works on the treatment of Chicks when ill of the 'gapes' are full of irrational matter, and perfect nonsense."—*T. F.*

It may be observed that, if the worms do get from the stomach into the windpipe, it must be by travelling up the gullet, entering the mouth, and then passing down the windpipe; that though salt does destroy intestinal worms, it must be administered cautiously to Chickens, lest we poison the patient, as well as the parasites; and that the mere vapour of turpentine will have little effect upon worms that are deeply imbedded in mucus.

We have now to notice another disgusting affliction to which Fowls are liable, and which it would be more agreeable to pass by altogether.

"Sometime ago I had a beautiful brood of Black Spanish Chickens, and the day after they were hatched I happened to take one in my hand, and was much struck by observing on the top of its poll five or six large full-grown lice, evidently caught from the mother. I then examined the whole brood, and found them all similarly

affected. Knowing that they would not thrive until I had dislodged or destroyed the enemy, the next day I attempted to pick them out; but I found that, having only been left one night, the whole poll was covered with nits, and I could not get rid of them from their hanging so tenaciously to the down. I procured some white precipitate powder, and, with a small camel-hair pencil, powdered them over. On examining them the next day, I found the parasites had all disappeared, nor could I detect one in their after growth. They grew and thrived so remarkably afterwards, that I was convinced this was a valuable discovery, and have ever since treated all my broods the same, and have never lost one from sickness. All Hens are affected with these parasites, and as they do not dust themselves so frequently during the time of incubation, they are more liable to them. I have ascertained from observation, that as soon as the Chickens are hatched, these pests leave the parent for the young, and if they are not destroyed, they weaken the Chicken so much, that if any complaint comes on, the poor little thing has not strength to contend with it. The best time to apply the precipitate is when they are two or three days old, and at night after they are gone to roost; but the Hen must not be touched with it; as, in pluming her feathers she draws them through her beak, and the precipitate being a strong poison, would no doubt prove fatal to her. In fact, there is no occasion for it; as I could never detect them in *her;* they had no doubt left her for the young. A very small quantity should be used; as one pennyworth, purchased at a chemist's, is sufficient for several broods."—*L. B.*

A slight application of spirit of turpentine and water answers the same purpose, and may be preferred by many persons who have a natural dislike to the use of poison. For, where poisons are admitted at all, there is no guessing what may be the end of them, and the relief of one creature from parasites by these means, may cause the death of another. For instance, after a sheep-dipping, a

gentleman lost a lot of valuable American Turkeys; they had devoured the poisoned maggots, ticks, &c., that dropped from the sheep, and were themselves poisoned by them. This is a warning *never to allow sheep-dippings to take place within the range of poultry*, all of which, except Geese, would be liable to the same fate.

There are some startling facts on the subject of parasitic insects, to be found in the "Monographia Anoplurorum Britanniæ," by Mr. Henry Denny, Curator to the Leeds Philosophical Society, a work which, although with a dog-latin title, that has doubtless limited its circulation, is written in such plain and truthful English, as to make the flesh creep on one's bones. It is not easy to enjoy uninterrupted slumber the night after reading Mr. Denny's Monograph.

"The author has had to contend with repeated rebukes from his friends for entering upon the illustration of a tribe of insects whose very name was sufficient to create feelings of disgust. '*Why not take up some more interesting or popular department of Entomology?*' has been the frequent remark made to him. He considered, however, that if he wished to render any service to science, he must not consult popular taste or ephemeral fashion, but must take a page from that part of the great Book of Nature, less generally read, and consequently less understood and appreciated by the world at large."

The number and variety of species given is frightful; some of those which infest Poultry are:—

"*Goniocotes hologaster* (Louse of the Domestic Fowl).

"*Goniodes falcicornis* (Louse of the Peacock).—This beautiful (!) parasite is common upon the Peacock, and may be found,—after the death of the bird,—congregated in numbers about the base of the beak and crown of the head. During the year 1827, three or four specimens of *Pavo cristatus* having passed through my hands, upon each of which I observed, for the first time, several examples of the large and well-marked parasite of this bird, the *Goniodes falcicornis*, I was induced to examine

whatever other species of birds, &c., might come in my way, to ascertain whether great diversity in size or appearance existed between the parasites of different species or genera. This I soon found to be so considerable, that I resolved upon forming a collection, and ascertaining what was written upon the parasitic tribes.

"*Goniodes stylifer* (Louse of the Turkey).—Common upon the Turkey, frequenting the head, neck, and breast: a very beautiful species. The males of this and all the other species of *Goniodes* use the first and third joints of the antennæ with great facility, acting the part of a finger and thumb.

"*Goniodes dissimilis* (Louse of the Domestic Fowl).—I suspect this species is of rare occurrence.

"*Lipeurus variabilis* (Louse of the Domestic Fowl).—Common on the Domestic Fowl, preferring the primary and secondary feathers of the wings, among the webs of which they move with great celerity.

"*Lipeurus polytrapezius* (Louse of the Turkey).—A common parasite upon the Turkey. Their mode of progression is rather singular, as well as rapid. They slide as it were sideways extremely quick from one side of the fibre of a feather to the other, and move equally well in a forward or retrograde direction, which, together with their flat polished bodies, renders them extremely difficult to catch or hold. I have observed that where two or more genera infest one bird, they have each their favourite localities; for while the *Goniodes stylifer* will be found on the breast and neck of the bird, the *Lipeurus polytrapezius* will be congregated in numbers on the webs and shafts of the primary wing feathers.

"*Menopon pallidum* (Louse of the Domestic Fowl).—Found in great abundance in Poultry, running over the hands of those who are plucking Fowls, and difficult to brush off, from the smoothness of their bodies." Those who are desirous of fuller information should consult the work itself.

It may be suggested that the discovery by the micro-

scope of fossil parasites, might determine the species of doubtful extinct birds and animals, by the same sort of reasoning as the order of fossiliferous strata is decided by the organic remains found in them.

But what a contrast is here displayed! The glittering argus-eyed plumage of the Peacock, undermined by lice! Ach! Degrading! We are but smoking flax. The Pope, at his coronation, is reminded, by the outward visible sign of extinguished flame, and by words, "Sancte Pater, sic transit gloria mundi"—"Holy Father, thus passes away the glory of earthly things." The Prelate, encased with gold and gems, but wearing beneath his outward show sackcloth, and perhaps vermin, voluntarily, and the Peacock, with his unrivalled plumes, irritated by these odious defilers, involuntarily, that in life move among the webs hastily, and after death "attract notice" about the seat of beauty and honour, the head and crest—are the same in kind,—apparent magnificence balanced by unseen evil. Like unto them also are the great and powerful of this world devoured by heart-eating cares and irremediable disappointments. What a natural and almost true superstition was that of the old Greek Nemesis! The returned ring of Polycrates is the fate of few mortals; nor to be wished for. The boast, "Soul, thou hast much goods, take thine ease," is apt to be followed by heavy retribution.

"See how glorious, how splendid, how secure we are! What can touch us, or ruffle our luxurious calm? Why need we humble ourselves, and go softly, and think of our less happy brethren now and then? Nemesis is an exploded phantom, self-denial a superstitious folly." Yes: "all men think all men mortal—but themselves." They who have felt no loss, no sorrow, have need to be greatly fearful! The black threads which the Sisters weave into our web of life, are healthful as warnings, merciful as threatenings, needful as preservatives. A world was not saved without a sufficient sacrifice. How shall frail and paltry individuals swim on in everlasting sun-

shine? The check in careering prosperity, the lice in the enamelled panoply, remind us what we are in the sight of The Ever-present.

"And upon a set day, Herod, arrayed in royal apparel, sat upon his throne, and made an oration unto them. And the people gave a shout, saying, It is the voice of a god, and not of a man. And immediately the angel of the Lord smote him, because he gave not God the glory: and he was eaten up of worms, and gave up the ghost."

Let us be thankful for sorrows, humble and loving in good fortune; for it is of no use to sit in the sun, reflecting his splendour by our trappings, and to be, like Herod, stricken of worms at last.

THE CLASSIFICATION OF FOWLS.

"The more I deliberate upon the best mode of arranging the different varieties of Poultry, the more I feel the difficulty of devising any satisfactory arrangement. Thus, supposing you should arrange them according to their combs and tufts, you place side by side fowls whose valuable qualities are of a totally different nature. Furthermore, some breeds, such as the Pheasant-Malay, and even the Hamburghs, are uncertain with regard to their combs. Then the Polands are some of them everlasting layers, and some not; while others of them can only be ranked as dunghills."—J. S. W.

It is evident that if Domestic Fowls be believed to be merely altered forms of one or two wild races, under the influence of altered food and climate, which we have endeavoured to show that they are not, they must be arranged on different principles to what they would be if we allow them to take rank as original and independent varieties or species. In the one case we have to search out the wild bird nearest resembling any one domestic breed, and form our series from that as a beginning, as well as we can; in the other case we have to become well acquainted with all the wild and all the domestic species of *Gallus*, and then arrange them in groups or in a continuous line, according to their resemblances and relationships, without any reference to the circumstance of their domestication or their untameability. The former plan can be carried out by a little theory and bold guess-work; the latter requires industry, accurate observation, and opportunities which few individuals, if any, have at present at command. In the meanwhile we may attempt something like an artificial arrangement of Fowls, which may afford a temporary assistance to the fancier, till a more scientific scheme is worked out, and which may perhaps be the

means of leading to it, just as, to compare small things with great, the artificial Linnean arrangement in Botany has cleared the way and been preliminary to the great natural system of classification that is now in vogue. Two desiderata are still required for the attainment of this object; one or other of them is indispensable—the first, a complete set of full-sized coloured figures of every variety, giving both the sexes, the egg, and the new hatched Chick, with accurate and technical descriptions of their plumage and their characteristic properties; the second, a collection of stuffed specimens of the representatives of every breed, for comparison and reference. The first can only be undertaken by a person of fortune; the second can scarcely be expected from our Museums or Natural History Societies, devoted as they are to subjects of wider range, and more general interest. It is to be feared that Poultry will be considered beneath the dignity of the Royal Agricultural Society;* but such a work, or such a Museum, would be no discredit to their taste; and, if the ladies of the leading members were to exert their influence, something might perhaps be done to illustrate a tribe of useful and engaging creatures, in whom so large a portion of society is more or less interested.

The correct mode of classifying Domestic Fowls would, we believe, be to arrange them with the wild ones, in natural order and sequence; but in the present state of our information, this is impossible, except in an unsatisfactorily rough approximation. Fifty years hence, when the successors of Sir James Brooke shall have explored the Indian Archipelago, such a thing may be succcesfully attempted.

It is a good exercise in this study, when, looking over a farm-yard, or casting an eye on a roadside lot of Hens, to endeavour to refer each one to some decided variety.

* The Society has since offered 20*l.* for the best Essay on Poultry, the copyright of the Prize Essay to belong to them.

Traces of the Dorkings, of the Polish, and the Golden and Silver Hamburghs, are very frequent. The best judges agree that there is no such variety as the Barn-door Fowl, (unless we agree to appropriate that name to some one variety which has hitherto been scarcely distinguished with precision), but that such barn-door collections are merely a rabble of mongrels, in which the results of accidental crosses have become apparent in all kinds of ways.

We will take, then, the serrated upright fleshy comb to be the typical distinction of the Cock—a feature which Aristotle has pointedly indicated—just as Mr. Swainson has fixed upon the broad bill of the Shoveller, to give that bird precedence among Ducks. The sickle feathers of the tail are perhaps equally characteristic of the genus, but they differ little in the respective varieties. Neither mark of distinction has, it is true, any functional office in the organisation of the animal; but it would be difficult to find one which had, even the spurs being common to many other gallinaceous birds which have neither comb nor sickle feathers. In the Spanish Fowl, the comb is more developed than in any other breed; we will therefore take that bird as our type, and suggest, with diffidence, the following *pro tempore* arrangement. The list by no means professes to include all varieties; but it will be immediately seen how easy it is to assign a place in it to such as are omitted. We pass from the single and upright combed Spanish, through the smaller, or pendant, or rose-combed breeds, to the commencement of the tuft in the Lark-crested Fowls, placing the amply top-knotted Polanders last.

I.—Full-sized Fowls.

Spanish	Hamburgh
Dorking	Cuckoo
Cochin China	Blue Dun
Malay	Lark-crested
Pheasant Malay	Poland, or Polish
Game	

II.—Bantams.

Sebright	White	
Yellow, or Nankin	Feather-legged, or Jumpers	Creepers
Black		

III.—Anomalous Fowls.

Rumpless	Silky
Frizzled	Negro

We now proceed to give some account of each variety.

THE SPANISH FOWL.

—•—

THE Spanish breed is, in all probability, of ancient and remote origin, and does really seem to have reached us from the country after which it is named. In North Devon they call the Spanish Fowls "Minorcas;" others call them Portugal Fowl; neither terms remove them far from their old established location, if not their original home. It is a noble race of Fowls, possessing many great merits; of spirited and animated appearance, of considerable size, excellent for the table, both in whiteness of flesh and skin, and also in flavour, laying exceedingly large eggs in considerable numbers. Amongst birds of its own breed it is not deficient in courage; though it yields without showing much fight to those which have a dash of game blood in their veins. It is a general favourite in all large cities, for the additional advantage that no soil of smoke or dirt is apparent on its plumage. The thoroughbred birds of the fancy should be entirely black, as far as feathers are concerned, and when in high condition display a greenish metallic lustre. The combs of both Cock and Hen are exceedingly large, of a vivid and most brilliant scarlet; that of the Hen droops over on one side. Their most singular feature is a large white patch, or ear-lobe, on the cheek, which in some specimens extends over great part of the face of a fleshy substance, similar to the wattle; it is small in the Hens, but large and very conspicuous in the Cocks. This marked contrast of black, bright red, and white, makes the head of the Spanish Cock as handsome as that of any variety we

have; and in the genuine breed the whole form is equally good: but the scraggy, long-legged, mis-shapen mongrels one often sees in the poorer quarters of a town are enough to throw discredit on the whole race.

Spanish Hens are celebrated as good layers, and produce very large, quite white eggs, of a peculiar shape, being very thick at both ends, and yet tapering off a little at each. They are by no means good mothers of families, even when they do sit, which they will not often condescend to do, proving very careless, and frequently trampling half their brood underfoot. But the inconveniences of this habit are easily obviated by causing the eggs to be hatched by some more motherly Hen.

It has been noticed that this variety of Fowl frequently loses nearly all the feathers on the body, besides the usual quantity on the neck, wings, and tail; and if they moult late, and the weather is severe, they feel it much. Nothing else can reasonably be expected to take place with an "everlasting layer." It often happens to the Guinea-fowl; and the reason of it is plain. If the system of a bird is exhausted by the unremitting production of eggs, it cannot contain within itself the wherewithal to supply the growth of feathers. The stream that will fill but one channel cannot be made to keep two at high-water mark; and therefore Mr. Leonard Barber justly observes, "With regard to an anxiety about their constant laying, in my opinion nature ought not to be forced, as it requires a rest. But some people think it cannot be right if their Hens do not lay every day; and I would advise such to have some early spring Chickens, which would begin laying in the autumn and continue mostly through the winter, and their old Hens would commence in the spring."

"I have had Hens laying every day, but never wish them to continue the practice, as nine times out of ten they suffer afterwards."—*H. H.*

It is doubtful whether they are even yet thoroughly acclimatised, for continued frost at any time much injures

their combs; frequently causing mortification in the end, which has terminated in death. A warm poultry-house, high feeding, and care that the birds do not remain too long exposed to severe weather, are the best means of preventing this disfigurement.

Some birds are occasionally produced handsomely streaked with red on the hackle and back. This is no proof of bad breeding if other points are right. On the contrary, it is as near as may be the sort which Columella's relation might have kept in Spain,* at the time when he was improving the native sheep by the importation of rams from Morocco eighteen hundred years ago.

The Chicks are large, as would be expected from such eggs, entirely shining black, except a pinafore of white on the breast, and a slight sprinkling under the chin, with sometimes also a little white round the beak and eyes; legs and feet black. Many of them do not get perfectly feathered till they are three parts grown; and therefore, to have these birds come to perfection in this country, where the summers are so much shorter than in their native climate, it is necessary to have them hatched early in spring, so that they may get well covered with plumage before the cold rains of autumn. But, as Mr. Bissell observes, "there is anything but an uniformity in the time Spanish Chickens get their plumage; the Pullets are always earlier and better feathered than the Cockerels: the latter are generally half naked for a considerable length of time after hatching. But this is not universally the case, for some of my best Cockerels were feathered tolerably well at an early age. This is a fact worth some particular remark, as many superficial observers in this neighbourhood have invariably rejected, for breeding purposes, the Cockerels which got their feathers early, supposing from that fact that they were not pure bred. But

* "M. Columella patruus meus, acris vir ingenii, atque illustris agricola."—Lib. vii. c. 2.

I have not only found them to possess all the qualities of the Spanish fully and truly developed, but that their early feathers so screen them from the inclemencies of the weather, that they are enabled soon to outstrip their brethren in size."

The black, however, is not the only valuable race of Spanish Fowl, although certain metropolitan dealers, who have no right to offer an opinion, if they do not choose to give information on the subject, presume to affirm that there can be no such breed as *speckled* Spanish, it being characteristic of that breed to be perfectly black. But Mr. Swainson justly complains of the deficiencies and the conduct of this class of people; and it is surprising that, since the establishment of the Zoological Society, they have not seen both the impolicy and the impracticability of withholding information on natural history from the public; for I cannot suppose the folly of any attempt to mislead. "Our first idea was to have drawn up (in the volume on Birds) as complete a catalogue as possible of all such foreign birds as were to be met with in our public or private menageries, distinguishing such as were known to have bred in confinement, and had consequently become domesticated, from such as were merely acclimated, or accustomed to our climate. This, without doubt, would have been the most desirable plan of proceeding, and would have given that information to the lovers of aviaries, which is now so much wanted; but further inquiry showed us *the utter impossibility of doing this, from the total absence of the necessary materials. It has not been heretofore the custom of recording, in print, information of this nature.* Those persons whose trade lies in the buying and selling of living birds, and of which there are several in London, *are not persons capable of writing upon such matters, even had they the inclination to reveal what they no doubt consider the secrets of their craft.* The Zoological Society, on the other hand, by embracing within its objects the whole animal kingdom, has hitherto found itself so occupied, and its attention so distracted by

the multiplicity of its concerns, and the paucity of its working members, that nothing worth mentioning has been communicated to the public on this interesting subject. However desirable, therefore, such an exposition as we at first contemplated would be, it never can be carried into execution, *unless by the powerful and united assistance* of those who direct their time and attention almost exclusively to the rearing and management of birds."—*Animals in Menageries*, Part II. "Birds," pp. 147, 148.

A gentleman who has served in the British army, in whose opinion, as a naturalist and a man of education, we have as great confidence as in that of any mere fowl-dealer, states, "In England there are *two* varieties of Spanish Fowl, the Black, and the Grey, or Speckled, the latter being of a slaty grey with white legs. In Spain there must be many varieties of everlasting layers, for I have seen a lot abroad that differed widely in appearance, single combs, double combs, and great variety of colour."

Mr. Barber says, "Being of opinion that our breed of Fowls required improvement, and having heard from a Spanish friend that they had a very fine breed in the part of Spain he came from, which were chiefly white or speckled, I last year (1846) got him to procure me some, and finding that they were such excellent layers, and that they were so much admired by every one who saw them, I got another importation about a month since (Nov. 6th, 1847), amongst which there are three speckled black and white, in shape and carriage very much like the spangled Polish (except being much longer in the leg), having top-knots and a tuft of feathers hanging under the throats, and white legs. The others are pure white, in shape and carriage exactly like the black Spanish, only wanting the white cheek-patch. They are much larger and broader than any of the black I have ever seen, and they are very fine in the neighbourhood of London. The Cock that came with the first lot is entirely black, and long in the legs, but without the white cheek-patch. In my opinion

they are the most useful and ornamental breed of Fowls both for the breeder and amateur. Their eggs are equal in size and number to those of the black Spanish. Some of mine last year weighed three, and some four ounces each. They appear very healthy and hardy. My Fowls came from the neighbourhood of Xeres de la Frontera, in Andalusia, about twenty-five miles from Cadiz. They have cost me about 10s. each, including freight, duty, and expense of clearing."

Another gentleman says, "I have a few Chickens out, from Mr. Barber's Andalusian Hens, some of which seem to be the true old black Spanish, and others of a grisly white, one of which has evident signs of a large future muff, but not the slightest semblance of a top-knot at present. They are without exception the very largest and finest Chicks I ever saw, coming as they do out of eggs fine certainly, but which do not exceed many of my own."—*H. H.*

Some of these birds are of a blue or grey, or slaty colour. Their growth is so rapid, and their eventual size so large, that they are remarkably slow in obtaining their feathers. Although well covered with down when first hatched, they look almost naked when half-grown, and should therefore be hatched as early in the spring as possible.

The cross between the Pheasant Malay and the Spanish produces a particularly handsome Fowl, and probably very much resembling the old Hispanic type.

A black Spanish Cock has been taught to visit the sill of his master's bedroom window every morning, and continue crowing till he was rewarded with a piece of bread.

Mr. Barber subsequently adds, "The tufted Fowls I had from Spain have not proved such good layers as the speckled single-combed. I have kept a correct account this season (1848) of the number of eggs I have had from them, and it amounts to above 1400, and they are still (Sept. 11th) laying. I began the season with twenty-three Hens. One has reared a brood of Chickens. Two died early in the season. This is a much larger number

than I have ever had from any of the *Black* Spanish I have kept. There is one great imperfection in these Fowls, which I think it right to mention, and that is, I have lost *nine* from laying, or rather, attempting to lay, soft eggs, and they have *all* been Hens which laid the largest eggs. However, I am inclined to think this is in a great measure owing to the confined space in which they are kept." There is no doubt of it, and that the evil would cease were the Hens indulged with a more extended range, where they could help themselves to chalky earth, lime-rubbish, and other natural medicines that are perhaps unsuspected by us. Nor have townspeople an idea of the intense longing which their Fowls feel for anything green, such as cabbage leaves, turnip-tops, and so on. The thousand-headed cabbage is very serviceable for them ; and those who have only a small garden can provide some supply of green food for their poultry, by having the edgings of parsley, instead of box, or thrift. The Fowls are very fond of it, as a variation from cabbage leaves.

We cannot too much insist upon the value of early Pullets for laying purposes in the autumn and winter after they are hatched. No Fowls can surpass the Spanish in this respect. A correspondent (J. S. W.) believes that they are also more precocious in their constitution, and that, in consequence, the Pullets lay at an earlier age than those of other breeds. He had two Black Spanish Pullets which were hatched on the 2nd of February, and commenced laying on the 18th and 19th of the July following, *and kept it up through the winter*. The constant use of a memorandum-book would fix many of these interesting little facts. It would be useful to institute a competition between different breeds. An experiment with a lot of Chickens of distinct varieties, hatched on the same day, and reared in the same yard under the same treatment, would be instructive if the results were noted.

There is a large breed of Fowls brought from Constantinople and the shores of the Black Sea. I have had no

opportunity of seeing specimens, but it would appear to be a branch of the Spanish. The Hens are described as having a large flaccid comb, flapping about like a piece of serrated red velvet, and as being astonishing layers, seldom sitting. It is a speculation whether the Spanish came to us from the East, southwards, viâ the Black Sea, while the Polish might reach us overland through Russia.

THE DORKINGS.

For those who wish to stock their poultry-yards with Fowls of the most desirable shape and size, clothed in rich and variegated plumage, and, not expecting perfection, are willing to overlook one or two other points, the Speckled Dorkings * are the breed to be at once selected. The Hens, in addition to their gay colours, have a large vertically flat comb,† which, when they are in high health, adds very much to their brilliant appearance, particularly if seen in bright sunshine. The Cocks are magnificent. The most gorgeous hues are frequently lavished upon them, which their great size and peculiarly square-built form display to the greatest advantage. The breeder and the farmer's wife behold with delight their short legs, their broad breast, the small proportion of offal, and the large quantity of good profitable flesh. When fatted and served at table, the master and mistress of the feast are satisfied. The Cockerels may be brought to considerable weights, and the flavour and appearance of their meat are inferior to none. Those epicures who now and then like a

* So called from the town of Surrey, which brought them into modern repute.

† A question has been raised at some Poultry shows, whether the Dorkings should be imperatively required to have a single, or a rose comb. Neither form ought to disqualify birds true in other respects; but we should decidedly prefer to make the acquisition of single-combed specimens, both as marking their relationship to the Cochin China, to be hereafter noticed, and as saving them from the suspicion of a cross with either the Malays or the Hamburghs, which a rose comb is apt to induce. The finest White Dorkings that have come under our notice have always had single combs.

Fowl killed by dislocation of the neck without bleeding (the more humane way) will find that this variety affords a tender and high-flavoured dish. The eggs are produced in reasonable abundance, and though not equal in size to those of Spanish Hens, may fairly be called large. They are not everlasting layers, but at due or convenient intervals manifest the desire of sitting. In this respect they are steady, and good mothers when the little ones appear. They are better adapted than any other Fowl, except the Malay, to hatch superabundant Turkey's eggs. Their size and bulk enable them to afford warmth and shelter to the Turkey-poults for a long period. For the same reason, spare Goose's eggs may be intrusted to them; though in this respect I have known the Pheasant-Malays to be equally successful.

With all these merits they are not found to be a profitable stock if kept thorough-bred and unmixed. Their powers seem to fail at an early age. They are also apt to pine away and die just at the point of reaching maturity. When the Pullet ought to begin to lay, and the Cockerel to crow and start his tail feathers, the comb, instead of enlarging and becoming coral red, shrinks and turns to a sickly pink or even to a leaden hue; and the bird, however well fed and warmly housed, dies a wasted mass of mere feathers, skin, and bone. It is vexing, after having reared a creature just to the point when it would be most valuable for the table or as stock, to find it "going light," as the country people call it; particularly as it is the finest specimens, that is, the most thorough-bred, that are destroyed by this malady. I do not believe that the most favourable circumstances would prevent the complaint, though unfavourable ones would aggravate it, but that it is inherent in the race and constitution of the birds. They appear at a certain epoch to be seized with consumption, exactly as, in some unhappy families, the sons and daughters are taken off all much at the same age. In the Speckled Dorkings the lungs seem to be the seat of disease,

and it is to be regretted that no dissection was made in cases where I had the opportunity.

A gentleman who has kept this breed of Fowls for nearly twenty years, suggests that the foregoing remark ought to be taken as the exception, and not the rule; of course it must, otherwise the whole race would have long since been extinct. Moreover, a degree of robustness and fecundity, which would be pronounced considerable in Curassows or Pheasants, may justly be called feeble in Cocks and Hens. The same word will have a different measure of force when applied to different objects. He says, that having been careful to introduce a fresh, well-selected Cock-bird or two into the walk, every second or third year at farthest, he has found the race uniformly hardy, healthy, and prolific. The remedy is one of the best that can be devised; but the necessity for adopting it confirms, instead of disproving our opinion, that the Cocks of this breed are deficient in vigour. However, Mr. Baily, of Mount Street, observes, as the result of his long experience, "A general remark I would make on Fowl-breeding is, that no one judges fairly of a breed, or sufficiently tries his opinion, if he has for two years been breeding in and in; and it is not enough to say in defence of the sweeping condemnation of a race, that he has only bred two years from the birds, and consequently not long enough for the evil to show itself; he must first inquire whether there were relationship in the stock he began with; perhaps he had a Cock and Pullet brother and sister from a friend or dealer, the progeny of similar relations, and from a yard where a change of stock was absolutely necessary when these were disposed of: he would thus unwittingly be carrying on the unfortunate process, and honestly, though mistakenly, consider *that* a defect in the constitution of the Fowl, which is, in truth, a mal-practice of the owner of it." There is certainly great force in the caution: the Poultry shows, with compulsory sales, now coming into fashion, offer one means of remedying the evil.

We are inclined to think that for persons who live in

grassy and thick-wooded situations, long-legged Fowls are preferable to short-legged breeds like the Dorking, they being carried higher above the damps and dews, besides having a longer leverage of limb (if such an idea is not altogether fanciful) to assist them in scratching for the worms and insects with which such localities abound. For instance, the average success of many country-people in rearing young Turkeys, is greater, all along, than that with Chickens.

Such people as are careless about seeing the full complement of five toes, are advised to try the Surrey Fowls, a nearly allied breed, or, as some call it, an improvement of the Dorking. They are a very fine variety, and may be had genuine from any of the respectable London dealers. The Old Sussex, or Kent, are closely related to these, if not absolutely identical.

But the serious and fatal maladies of Fowls are difficult to trace to their cause, and still more difficult to cure by the application of any remedy. It is unnecessary to more than allude to the volumes of absurd, irrational and impracticable directions, that have been printed on the subject. Many illnesses which we suppose to be of natural and spontaneous origin are, there is no doubt, brought on by the neglect and cruelty of boys and servants. Our domesticated animals are dumb; they cannot tell their master what ill-treatment they have received in his absence; and they often severely, cruelly, suffer the displeasure of some ill-natured underling, who dare not show his temper in higher quarters. Many a fancied or real wrong has been expiated by the Horse, the Dog, the Cat, or the Poultry. Nay, there is no concealing it, and mothers should listen to it, and think of it, as a motive to keep their lips guarded and their brow serene—many a harsh word spoken in a moment of irritation has been revenged in shakes and pinches upon the helpless infant.

In a communication with which I have been favoured by Dr. Bevan, the able author of the "Honey Bee," he says, "Just about roosting time one of the Cocks (of a

very choice breed), was found apparently lifeless at the back-door, lying on its side as though it had been knocked down, which I really believe it had. I brought it to the fire and placed it in a basket of hay. It soon began to move, and became violently convulsed." The worthy Doctor made a correct diagnosis of the malady, and so avoided the mortification of administering a long list of nostrums in vain. Some years ago we had a most beautiful Dorking Cock, the admiration of ourselves and of all who saw him. After a time he became ill, weak, and dejected; got worse, and died. Every ordinary comfort and care were afforded, but we did not try any of the extraordinary recipes that are current.

By-and-bye the discovery of cruel treatment to my pony elicited the fact that the stable-boy was in the habit of making the Cock "drunk;" a process which is effected by seizing the bird by the legs, and whirling him round and round in the air, till the centrifugal force shall have sent the blood to the head, and produced apoplexy. The amusement consists in seeing the Cock stagger and reel when placed upon the ground, and gradually recover, as it unsteadily walks off. "Tipsy Hen" is an agreeable variation of the sport. The cook had seen, and was indignant; but the lad's mother, when he entered my service, had, like the enchantress of romance, given her son a word of power. To the angry threat of the cook that she would tell of the atrocity, it was replied, "If you do, *I* will tell that every time it is your Sunday out, you go to see the little boy you had two years ago." Cook was thunderstruck at the mention of her "misfortune," and was tongue-tied. And so the machinery of households goes on.

I have subsequently found that in all cases of suspicious death, the surest way of coming at the truth, and preventing further malpractices, is to hold a formal inquest, with a post-mortem examination; and after a deliberate investigation to punish firmly, by rebuke or dismissal, any outrage on the laws of humanity.

Well might Aldrovandi caution his poultry-loving readers: "Therefore, he who wants to enjoy a profit from these birds ought, in the first place, to select some faithful body. For, unless he who has the care of the Hens remains honest towards his lord, the gain will not cover the expenses. An attendant of this sort, namely, who climbs into the hen-house, and collects the eggs, and turns by hand those which are incubated, will rightly be called the Hen-keeper, or Guardian."

As to the casualities arising from the neglect or ill-temper of servants, every farmer who has live stock to be tended, has had abundant proofs. There is a peculiar idiosyncracy in some individuals, which fits them to take charge of certain animals. Some female servants in the country have quite a passion for bringing up poultry, and by their care and kindness will rescue apparently moribund Chickens and Turkeys from the threatening jaws of death. A groom or stable-man almost always despises poultry. A gardener thinks it beneath him to look after them. Even in public Menageries the man who has charge of a Lion deems it a condescension to tend a few harmless birds. A clever little girl often makes an excellent poultry-tender: boys are as mischievous and untrustworthy as monkeys. When there is anything in hand requiring peculiar watchfulness, it is not a bad plan, if possible, to attend to it one's self.

Pure Dorking Hens are sometimes barren. I had one, a perfect model to the eye, short, square, compact, large, with plumage, comb, and weight all that could be wished —the very Pullet that a fancier would have chosen to perpetuate the breed. But she never laid, nor showed any disposition to sit, and in consequence of her uselessness, at about two years old was brought to table. The carving-knife soon demonstrated a mal-formation of the back and side bones, and showed that the models of the breeder may sometimes be too highly finished. This certainly might be a case of breeding in-and-in. But the Cocks, with all their outward trappings and sturdy

build, I must suspect to be deficient in vigour. If many Hens are allowed to run with them, clear eggs will disappoint those who want large broods of chickens. Three, or at most four, Hens to a Cock will give the most successful results.* These and a few other apparently trifling facts seem to show that with the Speckled Dorkings (a variety of great antiquity) the art of breeding has arrived at its limits. That it has limits is well known to persons of practical experience. Sir J. S. Sebright says, "I have tried many experiments for breeding *in-and-in*" (for the sake of developing particular properties) "upon Dogs, Fowls, and Pigeons: the Dogs became, from strong Spaniels, weak and diminutive lap-dogs; the Fowls became long in the legs, small in the body, and bad breeders."

"There are a great many sorts of fancy Pigeons; each variety has some particular property, which constitutes its supposed value, and which the amateurs increase as much as possible, both by breeding in-and-in, and by selection, until the particular property is made to predominate to such a degree, in some of the more refined sorts, that they cannot exist without the greatest care, and are incapable of rearing their young without the assistance of other Pigeons kept for that purpose."—*The Art of Improving the Breeds of Domestic Animals*, p. 13.

As mothers, an objection to the Dorkings is that they are too heavy and clumsy to rear the chicks of any smaller and more delicate bird than themselves. Pheasants, Partridges, Bantams, Guinea-fowl, are trampled under-

* Chaucer's Cock Chaunteclere, who was probably a Golden Hamburgh, had a larger allowance:—

> "This gentil cok had in his governance
> Seven hennes for to don all his plesance,
> Which were his susters and his paramoures,
> And wonder like to him as of coloures,
> Of which the fairest, hewed in the throte,
> Was cleped faire Damoselle Pertelote."
>
> *The Nonnes Preestes Tale.*

foot and crushed, if in the least weakly. The Hen, in her affectionate industry in scratching for grubs, kicks her lesser nurselings right and left, and leaves them sprawling on their backs. Before they are a month old, half of them will be muddled to death with this rough kindness. In spite of these drawbacks, the Dorkings are still in high favour; but a cross is found to be more profitable than the true breed. A showy, energetic Game-cock, with Dorking Hens, produces chickens in size and beauty little inferior to their maternal parentage, and much more robust. Everybody knows their peculiarity in having a supernumerary toe on each foot. This characteristic almost always disappears with the first cross, but it is a point which can very well be spared without much disadvantage. In other respects the appearance of the newly-hatched chicks is scarcely altered. The eggs of the Dorking Hens are large, pure white, very much rounded, and nearly equal in size at each end. The chicks are brownish yellow, with a broad brown stripe down the middle of the back, and a narrower one on each side; feet and legs yellow.

Of this breed Mr. Alfred Whitaker thus expresses his opinion:—"I agree with you fully as to the usefulness of this description of Poultry, but I do not view them exactly through the same medium as to their beauty. Compared with the Pheasant-Malays, they are short-necked, and there is no arch or crest to the neck. Their colours vary from a streaked grey to a mottled or spotted brown and white. A neighbour here has some of the finest I ever saw; the Cocks with very full double combs, and the Hens generally with reddish-brown spots on a white ground. To my eye the Cocks look heavy and stupid, neither the head nor the tail being usually carried in an erect position, or with any semblance of spirit. As regards size they are magnificent. I saw one on my friend's dinner-table three days since, quite as large as an ordinary Hen Turkey; it was a Cockerel about seven months old. My experience of their laying and breeding qualities

agrees mainly with your statement, except that I should lay still stronger emphasis on their fatal clumsiness as mothers, which I am inclined to think is aggravated by their extra toe behind, and the great length of their back toes. They frequently trample to death their chickens during the process of hatching, and in a small coop they demolish them at a fearful rate. I think they never should be cooped with their chickens: but a still safer course would be to hatch the eggs under a mother of a less rough physique, or perhaps by Cantelo's hydro-incubator." The only question is, how the Hen is to be employed when the sitting fit comes on, for they are most persevering sitters. I have successfully hatched both Turkeys and Geese under Dorking Hens. The latter will stand a great deal of trampling and kicking about without taking much harm from it. Mr. Whitaker continues, "I have crossed the Dorkings with Pheasant-Malays. The first cross produces a fine bird, which is large, though not prolific; but if you were to cross the breed with each other, they dwindle to nothing. The doctrine of breeding is yet ill understood. I am disposed to think that, where you have a real variety, breeding in is the natural and best mode of procedure; but that, when you cross two thorough breeds, you have no guarantee that the cross breed will be good further than the first result."

It is a question how the Speckled Dorkings were first introduced. Some maintain that the pure White Dorkings are the original breed with five toes, and that the Speckled Dorkings is a recent and improved cross, by which the size was much increased, between the original White breed and the Malay, or some other large stock of poultry. From this opinion I must entirely dissent, on the ground of strong, though not absolutely conclusive, evidence to the contrary. It seems to me that Columella's favourite sort of Hen could not differ much from our Speckled Dorkings. He says, "Let them be of a reddish or dark plumage, and with black wings. . . . . Let the

breeding Hens, therefore, be of a choice colour, a robust body, square built, full breasted, with large heads, with upright and bright red combs. . . . . those are believed to be the best bred which have five toes," &c. Except that there is no mention of speckles (and he never describes minute markings) the whole description almost exactly tallies with our birds of the present day. Pliny's account agrees with this: "Superiority of breed in Hens is denoted by an upright comb, sometimes double, black wings, ruddy visage, and an odd number of toes."—Lib. x. c. lxxvii. It appears that Columella *had* the White sort, but he rejected them; for he advises, "Let the white ones be avoided, for they are generally both tender and less vivacious, and also are not found to be prolific," faults which are still attributed to them. I cannot, therefore, avoid believing that from the robust, dark-coloured, five-toed Fowl, white individuals have been from time to time produced and propagated, exactly as we see in other species of Gallinaceous birds that have long been in domestication—Pea-fowl, Turkeys, and Guinea-fowl, for instance; and as the white variety of these is mostly smaller and more delicate than birds of the normal plumage, so the White Dorkings are inferior in size, and perhaps in hardihood. I think also that there is no instance of any white species of Cocks and Hens having been found wild (except the Silky Fowls, and those are separated by Temminck into a distinct species); which is some argument that dark and gaudy colours are the hues originally characteristic of the genus.

THE COCHIN-CHINA FOWL.

WHETHER the breed now under consideration did really come from Cochin-China or not, is probably known only to the party who imported them, if to him. But they certainly have been cultivated in this country, previous to their recent introduction to general notice as the most conspicuous ornaments of the Royal poultry-yard. A gentleman (W. S.) living in Monmouthshire informs me, that nearly thirty years ago a friend sent him a Cock and Hen of the "true Java breed." The Cock was so fine, large, and handsome, that he was immediately made "Cock of the walk." The present stock on that farm, which I have seen, are entirely his descendants, and are true Cochin-China Fowls; so that in this case "Java" and "Cochin-China" are synonymous. The first parents of this lot came direct from India. But from whatever Oriental region derived, it is a most valuable variety, and the only fear is that statements of its merits have been set forth so highly exaggerated, that they must lead to disappointment, and cause the breed to be as much undeservedly underrated, as it had been before foolishly extolled.

The size and weight ascribed to them are enormous. To give an idea of their height and magnitude they have been styled the Ostrich Fowl. It is an old, but very bad system of giving names, to affix that of some other creature, indicating certain supposed qualities; for such titles are apt to induce notions of relationship, or hybridity, which are not easily dislodged from the minds of many people. Cochin-China Fowls have been averred in the

Agricultural Gazette (Sept. 30, 1848) to weigh, the male birds from 12 to 15 lbs., the hens from 9 to 10 lbs. They certainly must be very fine indeed; for the weights specified are those of respectable Turkeys, not of Fowls. My own Cochin-China Fowls, obtained from the Messrs. Baker, now about eighteen months old, weighed, the Cock, 6 lbs. 5 oz., the Hen, 4 lbs. 6 oz. Some allowance must be made for the circumstance that both were moulting, and that the Hen had laid fairly during the season, and had not yet (Oct. 4) relinquished the charge of her second brood of Chickens. She laid exactly three dozen eggs in the spring, and then sat. After rearing her chicks admirably, she again laid a smaller number of eggs, and sat. The best Cockerel and Pullet of the brood hatched April 5th, and which had only ordinary care and feeding bestowed upon them, weighed, on Oct. 4, 5 lbs. 8 oz., and 3 lbs. 13 oz., respectively.

The reader will be better able to judge what weights Fowls may be reasonably expected to attain, after the inspection of the following lists of the live weights of various poultry, with which I have been obligingly favoured. But as the birds were generally out of condition, in consequence of their being mostly at that time on the moult, and also from the previous wet season, the weights are less than they would be under more favourable circumstances.

One list (*H. H.*) gives—

	LBS.	OZ.
" Black Polish Cock, three years old	5	3
Ditto Hen ditto	3	4
Ditto Pullet	2	6
Golden Polish Cock	5	0
Ditto Hen	3	8
Another Hen	3	10
Golden Polish Pullet	2	8
Malay Hen	3	12
Creole (Silver Hamburgh) Hen	3	1
Black Nondescript Hen	4	10
Globe-crested Polish Hen	3	9
Silver Polish Hen	3	4

	LBS.	OZ.
" Game Cock	4	10
Ditto Hen	3	0
Young Blue Dun Cock	3	6
Blue Dun Hen	3	0
Large Dun Hybrid Hen	3	8

" Among these, the Malay Hen was moulting, and not up to her usual weight by nearly a pound. It will be observed that there is a great relative difference between the Pullets and the grown Hens of the Polish breed. All the Polish increase much in size and beauty the *second* moult."

Another list, kindly furnished by Mr. Alfred Whitaker, gives—

	LBS.	OZ.
" Pheasant Malay Cocks, two years old, average each	7	0
Ditto Cockerel, five months old	7	0
Ditto Hen	5	1
Ditto Pullet, seventeen months old	5	3
Ditto (crossed with Dorking Hen), four years old	5	8
Speckled Surrey Hen, two years old	5	12
Spanish Hen	5	0
Two Dorking Cocks, each	7	0
Ditto Hens	6	8
Ditto ditto	6	12
Cock Turkey, two years and a half old	17	12
Hen ditto, one year and a half old	10	0
Ditto ditto	9	9
Musk Drake (moulting)	9	12

" The Dorkings belong to a neighbour, and are very fine ones. The Hens, it will be seen, approach nearer to the weight of the Cocks than is the case with the Pheasant-Malays. The Spanish Hen is about to moult, and is rather underweight."

Our own poultry-yard furnishes these :—

	LBS.	OZ.
Turkey Cock, sixteen months old	16	0
Ditto Hen, three or four years old	8	6
White China Gander, six years old	12	13
White China Goose	11	13

	lbs.	oz.
Common China Goose, Cynöides, six years old	10	10
Cochin-China Cock, about sixteen months old, moulting	6	5
Ditto Hen ditto ditto	4	6
Malay Cock ditto ditto	6	14
Ditto Hen ditto ditto	4	8
Pheasant-Malay Cock	5	7
Ditto Malay Hen, moulting	3	8
Game Cockerel, about five months old	4	2
Golden Hamburgh Cockerel, just arrived from a long journey, about five months old	3	8
Ditto Pullet ditto ditto	2	4
Cochin-China Cockerel, six months old	4	14
Another ditto	4	13½
Silver Hamburgh Cockerel, after travelling, about five months old	3	1
Ditto Pullet ditto ditto	2	8
Black Polish Hen, moulting	3	0
Golden Hamburgh, ditto	2	3
Andalusian Cockerel, four months old	3	8
Ditto Pullet ditto	2	6½
Black Spanish Cockerel ditto	2	11
Ditto Pullet ditto	2	11
Silver Polish Cockerel, four months and a half old	2	14½
Golden Poland Pullet, about five months old	2	8
White-crested Golden Poland Pullet, ditto	2	3

It will appear from the foregoing, that for a Cock, of any breed, to reach 7½ lbs., even live weight, he must be an unusually fine bird; but this has to be doubled before we can rival the Cochin-China specimens above mentioned. I have never yet seen Cocks and Hens weighing 15 lbs. and 10 lbs, respectively: those most nearly approaching these weights have been Malays, not Cochin-Chinas, ancient and venerable birds, looking old enough and tough enough to have performed the migration from India on foot. It has also been incorrectly asserted that "the disposition of the feathers on the back of the Cock's neck is *reversed*, these being turned upwards; the wing is jointed, so that the posterior half can, at pleasure, be doubled up, and brought forward between the anterior half and the body:" the only foundation for which absurdity is, that in some of the half-grown Cockerels,

certain feathers, the wing-coverts, curl forwards; but the curling disappears with the complete growth of the plumage.* But the long bow is stretched even yet a little

* Mr. Bissell further explains the mystery: "I had a Cockerel that was unusually slow in getting his feathers, and, as may be expected, was very much pinched with the cold; he would frequently squat down upon the straw in a shed, to rest himself, and perhaps for warmth also (which is a very usual thing for them to do); and in that position I have frequently seen him, in the effort to keep himself warm with the few flight feathers that he already had, turn them under his wing and against his body, which I have no doubt has given rise to the misrepresentation. I have carefully examined him, and can testify that the conformation of his wings is the same as in all other Fowl, and now he is older and better feathered, he never places the feathers of his wing in the position I have now described.

"I find among my Cochins some feathered-legged specimens; and others that I have seen, which came from Windsor direct, have some of them the same appendages, and I believe them to be quite pure notwithstanding."

An Extract from a recent letter is given to illustrate still more fully the Cochin-China Fowls. "Some here say that the Queen of England's Fowls came from Shanghae . . . . I will give you some idea of the few bloods I have at present. I have two varieties, if not breeds, imported in 1847, direct from the city of Shanghae; the one in the American ship Huntress, the other in the ship Tartar. They differ somewhat from each other; one being almost smooth-legged, the other heavily feathered on the legs. The colours differ; the smooth-legged being all, the Cocks, some shade of yellow or red, the Hens some shade of bay: these weigh, the Cocks when grown, 9 lbs., the Hens, 6 or 6½ lbs. [These are probably identical with our model Cochin-Chinas.] The heavily feathered on the legs differ from the above as to weight: the full-grown Cock will weigh 12 lbs. and the Hen 8 lbs. As to colour, the Cocks come about one-half of the number a reddish *Dominique*, the other half red with some black intermingled. Eggs of both kinds very much alike: the colour a reddish yellow and would weigh from 2½ to 3 oz. each.

I have another breed called the Malay or Chittagong, still larger, the Hens especially, than the last: they are usually, in colour, brown, dark brown, or yellow, sometimes almost black; not heavily feathered on the legs, and the Hens, good ones, will weigh from 9 to 10 lbs. I have a three years old Hen of this kind, which weighs 13¼ lbs. *good*; she is, however, a *rara avis*. The Cocks do not weigh heavier than the above kind, ranging from 11 to 12 lbs. The Eggs of this kind are not quite so dark in colour as the last, but somewhat larger. The first two kinds are decidedly the best layers, and altogether the most

further: "they sometimes lay two, and even three Eggs a day, and that within a few seconds of each other." No doubt of it; however physiologically improbable the performance of such a feat may be. And an American newspaper kindly informs us how other Hens may be taught to follow so good an example. "A cute Yankee has invented a nest, in the bottom of which there is a kind of trap-door, through which the Egg, when laid, immediately drops; and the Hen, looking round, and perceiving none, soon lays another!" Natural History has a hard struggle to come at correct conclusions in this department of ornithology.

The Cochin-China Cock has a large, upright, single, deeply-indented comb, very much resembling that of the Black Spanish, and when in high condition, of quite as brilliant a scarlet; like him also he has a very large white ear-lobe on each cheek*. The wattles are large, wide, and pendant. The legs are of a pale flesh colour: some specimens have them yellow, which is objectionable. The feathers on the breast and sides are of a bright chesnut brown, large and well-defined, giving a scaly or imbricated appearance to those parts. The hackle of the neck is of a light yellowish brown: the lower feathers

practical Fowls, perhaps because the Hens are rather smaller." *J. J. K., Kensinyton, Philad: Penna: N. America, Jan.* 1850. The learned poultry-fancier will immediately appreciate the value of the above. The name of Cochin-China is appropriated to the first variety; "Shanghae Fowls" may with advantage be given to the second. We here recognise certain Fowls as, in no very forced expression, encircling the globe. And after all, this is only a specimen of what happens to find its way into the Shanghae market; more is without doubt in the back-ground. A task worthy of the spirit of America would be to produce some of the South Sea and Pacific Island poultry—from the more isolated groups (the Society or Sandwich) the better—of the ancient aboriginal stock, as found by the first European discoverers, Cook, &c.

* "I have seen a great many Cochin Fowl, and have observed that but few of them had white ear-lobes; I therefore conclude that it is not an indispensable if even a required qualification." *J. Bissell.*—It is however to be preferred, for beauty at least, if not as a mark of pure blood.

being tipped with dark brown, so as to give a spotted appearance to the neck. The tail-feathers are black, and darkly iridescent; back, scarlet-orange; back-hackle, yellow-orange. It is, in short, altogether a flame-coloured bird. Both sexes are lower in the leg than either the Black Spanish or the Malay.

The Hen approaches in her build more nearly to the Dorking than any other, except that the tail is very small and proportionately depressed: it is smaller, and more horizontal, I think, than in any other Fowl. Her comb is moderate-sized, almost small; she has also a small white ear-lobe. Her colouring is flat, being composed of various shades of very light brown, with light yellow on the neck. Her appearance is quiet, and only attracts attention by its extreme neatness, cleanness, and compactness. My male bird has two claws on the toe of one foot, a peculiarity which is inherited by some of the chickens.

The eggs average about 2 oz. each. They are smooth, of an oval, nearly equally rounded at each end, and of a rich buff colour, nearly resembling those of the Silver Pheasant. The new-hatched chicks appear very large in proportion to the size of the eggs. They have light flesh-coloured bill, feet, and legs, and are thickly covered with down, of the hue vulgarly called "carrotty." They are not less thrifty than other chickens, and feather somewhat more uniformly than either Black Spanish or Malay. Nevertheless, it is most desirable to hatch these, as well as other large-growing sorts, as early in the spring as possible; even so soon as the end of February. And it deserves consideration, whether those breeders are not the wisest, who do not allow their Hens to hatch *chickens* after midsummer. A peculiarity in the Cockerels is, that they do not show even the rudiments of their tail feathers till they are nearly full grown. They increase so rapidly in other directions, that there is no material to spare for the production of these decorative appendages. A gentleman to whom I sent a

pair, wrote word that one of the Fowls had had the misfortune to lose his tail on the journey. An egg hatched at a distance was said to have produced something more like an Eaglet than a Chicken. The Pullets are less backward in shooting their tails, and this distinction alone is sufficient to denote the respective sexes at a very early age. The Cockerel is also later than others in commencing to crow.

The merits of this breed are such, that it may safely be recommended to persons residing in the country. For the inhabitants of towns it is less desirable, as the light tone of its plumage would show every mark of dirt and defilement, and also because the readiness with which they sit would be an inconvenience, rather than not, in families with whom everlasting layers are most in requisition. At present they are too expensive to have had their edible qualities much tested. Most persons would prefer gratifying a friend with the living, than their own palate with the dead birds. But they are equal or superior to any other Fowl for the table: their flesh is delicate, white, tender, and well-flavoured.

The Cochin-China Fowl are said to have been presented to her Majesty, Queen Victoria, from the East Indies, and, by her liberality, imparted to such persons in the country as were likely properly to appreciate them. It is delightful to see so good an example in communicating a valuable stock, and also in aiding Natural History by making no secret of the source whence it was derived, although, as we have seen, they are really no novelty. The shape and size of the eggs of the Cochin-China Fowl, their qualifications as layers and mothers, the frequency of the fifth toe among them, and their general build and carriage, point out their very near relationship to the Dorkings: they are in truth the Dorkings of India. In the west of England there has lately been introduced an extra-sized variety of Fowl called the American (and really imported from America), but derived from what original source we cannot yet trace. These, however, do

not exhibit marks of much distinctness of race or purity of blood, except their vast bulk, but display traces of both the Malay and the Cochin-China type, inclining in the best specimens to the latter, with a probable intermixture of Dorking or Spanish blood. Such birds, except during their early youth, would suit the purposes of Chinese cooks, with whom sinews and tendons form the great delicacies of the table, rather than of English artists, who prefer to exercise their skill on what will furnish a sufficiency of tender meat. Still they suggest the idea that it may be found more profitable, in crossing for the larder, to cross constantly two large breeds, than to go on with one pure breed; exactly as in raising a supply of sheep for the butcher, the first cross between the Leicester and the Southdown answers so well. So we will quote the song of Hecate, and chant over the poultry yard,

> "Black spirits and white,
> Red spirits and grey,
> Mingle, mingle, mingle,
> You that mingle may."

Another Chinese Cock, as the old naturalists would announce it. Dr. Bevan, of Machynlleth, Montgomeryshire, has favoured me with the following:—"I only commenced keeping Fowls last year (1847), when a Hen purchased for the pot, stole a nest in the field. Having heard of a particular breed, brought from China as a present to the late Sir Robert Vaughan, which were said to be capital layers, very much disposed to become fat, with the flesh delicately white, approaching in flavour to that of game, I begged the favour of a few eggs, and was able to rear two Cocks and two Hens. When hatched, and for several weeks afterwards, they looked more like young Ducklings than young Chickens, and their feathers were pushed forth so slowly that, even when a month old, there was very little appearance of wings, and none of tails, and it was another month before they were able to fly half a yard high. The two brothers continued very amicable till they were six or seven months old; at that age the

strongest began to tyrannise, so I gave him to a friend. The Hens began to lay when between five and six months old, and they have continued to lay almost daily ever since. The eggs, at first, were very small, but have been slowly increasing, and at this time they weigh about an ounce and a quarter; one Hen lays perfectly white eggs, the others are cream-coloured, and both are of a dumpy oval shape. *The Hens still retain a somewhat peculiar appearance, having stout legs and thighs, and being almost as broad as long. The tails continue short, not half the usual length;* but the Cock, who is a very fine handsome fellow, has but little peculiarity about him, only being, like the Hens, of smaller size than the Barn-door Fowls. They are remarkably tame, indeed, rather troublesome, depending, in part, perhaps, on the manner in which they have been brought up. They all seek the shelter of a building by night, and one of the Hens never roosts, but sits all night upon her nest. From what I have said, you will infer that as yet I have not tasted the flesh of this variety, nor shall, of course, till next autumn, but as the other character I had of them is correct, I give credit for that also. There is another Chinese variety in the neighbourhood, the bones of which are said to be black.

"I will endeavour to describe my China Cock. He is of not more than moderate size. His comb is single, erect, and finely serrated, his shawl feathers of a brilliant gold colour, reaching, when he stands up, nearly the length of his body, and joining at that time, a few rows of feathers of the same colour which extend to the tail, which is jet black, with the feathers finely curled and in moderate quantity; his body is of a brilliant chesnut colour, his thighs and breast black, but spangled with pale chesnut patches. The thighs of both sexes are remarkably full-feathered, which gives them a great apparent breadth."

Another. "I lately saw a Chinese Cock with a rose comb, and the plumage of the golden-spangled Hamburgh; his legs were yellow, or he might be taken for one of that breed."—J.S.W.

THE MALAY FOWL.

This breed is in high repute with many writers, as a supposed connecting link between the wild and the tame races of Fowls. Indeed, something very like them is still to be found in the East; and it would be useful to know, as a certain test, whether the Kulm Cock be indocile, like the Pheasant, or tameable, like the Fowl. The Penny Cyclopædia (article "Pheasant") gives the following description of the native Indian bird:—

"The *Gigantic Cock*, the *Kulm Cock* of Europeans (a wild breed) often stands considerably more than two feet from the crown of the head to the ground. The comb extends backwards in a line with the eyes; it is thick, a little elevated, rounded upon the top, and has almost the appearance of having been cut off. The wattles of the under mandibles are comparatively small, and the throat is bare. Pale golden-reddish hackles ornament the head, neck, and upper part of the back, and some of these spring before the bare part of the throat. Middle of the back and lesser wing-coverts deep chesnut, the webs of the feathers disunited; pale reddish-yellow, long drooping hackles cover the rump and base of the tail, which last is very ample, and entirely of a glossy green, of which colour are the wing-coverts; the secondaries and quills are pale reddish-yellow on their outer webs. All the under parts deep glossy blackish green, with high reflections: the deep chesnut of the base of the feathers appears occasionally, and gives a mottled and interrupted appearance to those parts." (*Jardine* principally.)

Here is a description of some Malay Fowl supplied by Messrs. Baker:—

Malay Cock.—Height twenty-seven inches and a half. Comb small, double, hanging over on one side in front, and extended in a line backwards. Bill yellowish, feet and legs decided yellow; hackle greyish yellow; breast, belly, and thighs black; back and shoulders rich brown; wing-coverts iridescent black; quill feathers the same, but having half of the outer web on one side of the quill mottled with white; wattles almost absent; tail iridescent black; stature lofty; voice particularly sonorous, and somewhat hoarse.

Malay Hen. — Comb very small, but face much covered with red skin. Bill, legs, and feet yellow; head, neck, back, tail, and quills of a rich brown; the lower parts and thighs of a lighter hue; neck long; stature and carriage lofty; head small in proportion to the size of the bird.

It may be suspected that Malays are underrated in importance by Poultry-keepers, as much as they are overrated by naturalists. The common prejudice condemns their flesh as coarse, stringy, oily, and ill-flavoured. But it is a question whether many of those who pronounce this unfavourable judgment have ever dined off so costly a dish as roast Malay Fowl. First-rate Malays are exceedingly dear in London. I have heard of as much as 5*l.* being asked for a superior Cock; but, then, he was to be "as big as a Donkey." It is odd, too, that what is so faulty in an unmixed state, should be highly recommended as a first cross. The yellowness of their skin may be displeasing to the eye of a purchaser; but many of the finest-flavoured Game Fowls have this quality, and both Pheasants and Guinea Fowls, when plucked for the spit, are much more uninviting in their appearance. It will be a pity if the Malays go out of fashion altogether, and become lost to the country, like the Shackbags, in consequence of the introduction of the more bepraised, and it must be confessed, much more generally useful,

Cochin-Chinas. The Poultry Shows, however, in which their striking appearance is so valuable, promise again to bring them perhaps into undue favour. They are certainly a very distinct race of Fowls.

The Malay Hen lays eggs of a good size, and of a rich buff or brown colour, which are much prized by the numerous epicures who believe that this hue indicates richness of flavour—a fact which has not yet been made sensible to my own palate. The chicks are at first very strong, with yellow legs, and are thickly covered with light brown down; but, by the time they are one-third grown, the increase of their bodies has so far outstripped that of their feathers, that they are half naked about the back and shoulders, and extremely susceptible of cold and wet. The grand secret of rearing them, is to have them hatched very early indeed, so that they may have got through this period of unclothed adolescence during the dry, sunny part of May and June, and reached nearly their full stature before the midsummer rains descend.

The disposition of Malay Hens is very variously described: doubtlessly with truth in the different cases. One set,—"long in the leg, creamy brown with darker necks, were very ill-tempered; another individual, of a rich creamy brown and grey neck, and very broad on the back, was an invaluable sitter and mother. They are much used by some to hatch the eggs of Turkeys, a task for which they are well adapted in every respect but one, which is, that they will follow their natural instinct in turning off their chicks at the usual time, instead of retaining charge of them as long as the mother Turkey would. Goslings would suffer less from such untimely desertion."

I cannot refrain from mentioning a singular habit that has been observed in some individuals of this breed: "A multitude of facts has convinced me how wonderful is the hereditary principle in the minds or instincts of animals; but some facts have made me suspect that we sometimes put down to hereditariness what is due to

imitation. I will give an instance: a good observer and breeder told me he had noticed that an Eastern breed of Poultry (Malay I think) imported by Lord Powis, though then reared during several generations in this country, always went to roost for a short time in mid-day" (of course instinctively, to avoid the noontide heats at home). "Hence (if the fact be true, and I rarely believe anything without confirmation) I concluded that this habit was probably hereditary; but mentioning this fact to a lady who had some Eastern breed, she said she believed she had noticed the same peculiarity, but with this addition, that some chickens reared under the Eastern Hen, followed (she knew not for how long) the same habit; if so, we clearly see that it may be a merely handed-down practice, and not hereditary. To test it, the Eastern eggs ought to have been hatched under a common Hen; but my first informant is now dead. This point, though trifling, is really curious."—*C. D.*

I certainly have noticed Hens of various breeds occasionally retiring to roost for a mid-day nap; but never knew any make a common practice of it. Domestic Fowls have this peculiar whim; when they are compelled, by rain, snow, or severe frost, to take shelter during the day, they do not retire to their dormitory, the Hen-house, where they sleep at night, but prefer some other building to which they can have access and use as a drawing-room, and from which they will adjourn to bed, when the proper time comes.

"I saw a lot of black Malay Hens in Hungerford Market, and with them a red Cock with a black breast and tail; the quills of his tail were white. I was at first inclined to think that they had a cross of the Spanish; but when I recollected to have seen Fowls of exactly the same appearance, though somewhat smaller, in Devon, I changed my opinion."—*J. S. W.*

There is considerable difference in the plumage of the coloured Malays, something of which may be the effect of age; they are also found with flesh-coloured as well as

yellow feet and legs. The Black Malays are very handsome cavalier-looking birds: and the White Malays, when clean, offer a curious combination of colour,—snowy plumage mounted upon a pair of long bright-yellow legs.

THE PHEASANT-MALAY FOWL.

This variety, together with some of the Hamburghs, may claim the sad pre-eminence of having given occasion to more disputes than any bird of its tribe, always excepting the Game Cock. It is highly valued by many farmers, not on account of its intrinsic merits, which are considerable, but because they believe it to be a cross between the Pheasant and the common Fowl, than which nothing can be more erroneous. The Pullets and Cockerels are excellent for the table, and when brought to market meet with a ready sale, less because they are really fine birds, than because the seller assures his customers, in perfect sincerity, that they are half-bred Pheasants ; and the buyer readily pays his money down, thinking that he has got a nice Fowl, and a taste of Pheasant into the bargain—something like the Frenchman, who was delighted at breakfast, on finding that he was eating a little chicken, when he had only paid for an egg.

So gross an error in Natural History ought to be cleared away, as a belief in it might cause disappointment to Poultry fanciers ; and particularly since the able author of " British Husbandry" has given the weight of his authority to the notion. He speaks of the "hybrid between the Hen and the Pheasant having succeeded ;" and adds: " Their flesh, however, has so much of the game flavour of the Pheasant, coupled with the juiciness of the Fowl, as to be greatly prized by connoisseurs in good eating ; and therefore attempts are often made to propagate the

breed by those who are careless of trouble and expense." —*Farming for Ladies.*

To prevent this trouble and expense being thrown away, it should be clearly known that the Pheasant breed* of Poultry fanciers is no more a mule between the Hen and the Pheasant, than the Cochin-China or Ostrich Fowl is a half-bred Ostrich, or that the Bustard breed of Turkeys sprang from a commixture with the great Bustard. Dr. Latham has an Owl-pigeon and a Turkey-pheasant on the same principle of nomenclature. The really half-bred Pheasant, which is indeed obtainable by trouble, expense, and, above all, by patience and perseverance, is not unfrequent in museums and collections. Any offspring of these mules is rare : so that no breed is originated ; only a set of isolated monsters. Mr. Yarrell describes and figures several other mules between the Pheasant and one or two gallinaceous birds nearly allied to it. Those between the Common Fowl and the Pheasant which I have seen, bore, in their outline, great resemblance to the genus Nycthemerus, the Golden and Silver Pheasants : thus supporting the position assigned to those birds by Mr. Swainson, namely, between the Fowls and the Pheasants. And the great and varied talents of that gentleman must claim respect from every student of Nature, even though they may not be complete converts to his circular system and quinary arrangement. But, in confirmation of his views, it may be urged that existence is not a chain, a simple series, as some have described it, but an infinite net-work extending in all directions, developing itself not superficially but cubically, like the spherical undulations of light that flow from every fixed star. Each animated being is a portion of this net-work; and from each, as from a centre, may be traced affinities and relationships to all surrounding beings that are endued with life.

The Nycthemerus and the mule Pheasant have tails more or less horizontal. The Hen of the Pheasant-

* See infra, the synonyms of the Hamburgh Fowls.

Malay carries hers in a particular upright and Hen-like manner; the Cock has the curved and flowing feathers of the tail, and every other mark of true Gallism. The Pheasant-Malay Hen has semi-oval markings on the breast, and shining blue-black hackle on the neck mixed with dark brown, which do bear some distant resemblance to the plumage of a Cock Pheasant, and might give rise to the false notion of her origin; but a glance at the Cock bird shows how nearly he is related to the Game Fowl; a closer inspection shows the affinity of both to the ordinary Malays.

"Pheasant Fowls," "The Pheasant Breed," are terms which ought to be at once discarded, as being either erroneous or unmeaning, or rather, both. By these terms various people intend to indicate Golden Hamburghs, Silver Hamburghs, Polanders, and even Bantams,* besides the subject of the present section. An eminent London dealer being asked what breed of Poultry he would supply, if the "Pheasant Breed" were ordered, replied, that he did not know; for some gentlemen so called one sort, and some another. Indeed, the name is vernacularly applied to anything that bears the most distant resemblance to a Pheasant. It has first to be shown that there *is* a Pheasant breed of Fowls; every specimen so-called that I have hitherto seen, being referable to some one of the varieties mentioned in these pages.

To pass slightingly over such a popular error would be wrong, because it involves the great question of the immutability of species. The result, then, of our inquiry is this; that hybrids between the Pheasant and the Fowl are, for the most part, absolutely sterile; that when they do breed, it is not with each other, but with the stock of one of their progenitors; and that the offspring of these either fail, or assimilate to one or other original type. No half-bred family is perpetuated; no new breed created by human or volucrine agency.

* In Moubray's work, 8th edition, a coloured engraving of Seabright's Spangled is entitled, "Bantam, or Pheasant Fowls."

Some believers in the improvement effected by Pheasants in our Common Fowls put their trust entirely in the *possibility* of the fact, not in any evidence of what has actually occurred. "One man, who had some of the birds near a wood, indeed assured me that the breed was easily reared, and that they grew more and more like Pheasants every clutch; but I noticed he had Hens of other breeds going with his Pheasant-mules or hybrids, male and female, and *he was not sufficiently intelligent to be fully depended on*. Besides, though his Cock and some of the Hens were undoubtedly (?) true hybrids, yet, as he lived close by the wood side, it is most probable that, as in the former instance, the Cock Pheasant of the wood usurped the attentions of the whole sisterhood, thus accounting for the broods growing more like Pheasants every generation. The most successful breeder of them admitted that, after many trials (of paired hybrids), he had "never brought up but two to be a'most Hens," and that then they took the (meghrims) staggers and died."—(*Correspondent of the Agricultural Gazette, July* 1*st*, 1848.) Such naturalists as these are clearly got into a wood, and likely to ramble about therein so long a time, that it is hopeless to endeavour to extricate them.

Others say, "Consult some intelligent gamekeeper, and you will alter your opinions." Well; we are anxious only for the truth, and are ready to be convinced by any proved facts that a gamekeeper can produce. Accordingly, we have consulted M. Le Roi, gamekeeper to the King of *France* not *of the French*, before the first revolution, when game was indeed preserved, and country gentlemen, almost as much as kings, when they visited the country, really could keep poachers in awe. He informs us of his experience, thus:—"Man has tried to effect a violence with the Cock Pheasant, to make it breed with a foreign species; and the experiments have in some degree succeeded, though they required great care and attention. A young Cock Pheasant was shut in a close place, where but a faint light glimmered through the roof: some young

Pullets were selected, whose plumage resembled the most that of the Pheasant, and were put in a crib adjoining that of the Cock Pheasant, and separated from it only by a grate, of which the ribs were so close as to admit no more than the head and neck of these birds. The Cock Pheasant was thus accustomed to see these females, and even to live with them, because the food was thrown into the crib only. When they had grown familiar, both the Cock and Hens were fed on heating aliments; and after they discovered an inclination to couple, the grate which parts them was removed. *It sometimes happened that the Cock Pheasant, faithful to nature, and indignant at the insult offered him, abused the Hens, and even killed the first he met with; but if his rage did not subside, he was on the one hand mollified by touching his bill with a red-hot iron, and, on the other, stimulated by the application of proper fomentations.*"—*Buffon's Natural History of Birds*, vol. ii., p. 302. His note attached is,—"The Wild Pheasants never couple with the Hens which they meet; not but they sometimes make advances, only the Hens will never permit them to proceed. I owe this, among many other observations, to M. Le Roi, Lieutenant des Chasses at Versailles." A promising commencement of a new breed of Poultry!

But it might be objected that all this happened sixty or seventy years ago, and that the nature of Pheasants and Fowls has since been modified. We have therefore consulted another intelligent keeper, who knows as much about the subject as the best shot that ever handled a gun. On stating my opinion of the absurdity of the popular notions about the "Pheasant Fowls" to Mr. James Hunt, the experienced servant of the London Zoological Society, he replied, "You are quite right, sir; those who think differently have only to look at that," pointing to a miserable, really half-bred Pheasant, that was then walking before us.

Nor does the experience of Mr. Hunt differ much from that recorded by his superiors. "Birds produced between

the Pheasant and Common Fowl are of frequent occurrence. The Zoological Society have possessed several, which were for a time kept together, but showed no signs of breeding; they are considered, like other hybrids, to be unproductive among themselves, all being half-bred; but when paired with the true Pheasant or the Fowl, the case is different. The Zoological Society has had exhibited at the evening meetings two instances of success in this sort of second cross. The first was in 1831; the second instance in 1836."—*Yarrell*, vol. ii., p. 317. Two cases only, and those in the *second* cross, ascertained during all the time that the Society has had extraordinary means at command, are exceptions so rare, as to confirm the rule that such mules are barren, and incapable of founding a family, and becoming the ancestors of a distinct race. And yet an evidently sincere writer declares,—"From what I have seen of the plumage of birds casually produced at the wood side (from crossing with Pheasants), I believe a judicious and scientific selection would lead to the production of very fine varieties, and that among others, the dark Pheasant-plumaged breed, both of Bantams, and common poultry, would reward the patient inquirer."—*Agricultural Gazette*, June 10, 1848. Patience may sometimes be its own reward; but it is a sad thing to get into a wood, if the German romancers are to be listened to.

Those who still believe in the permanent combination of the Pheasant with the Fowl, rest their faith entirely on the "pure half-bred" birds which they procure from the wood sides to begin with. But, we may ask, how do they know that they are really such? If they were only told by some man who lived by the wood side, and reared them from one of his Hens kept there, that they were half-bred Pheasants, we must refuse to admit any such uncertain hearsay evidence, as unworthy to have any weight in solving what is one of the most important problems (in its consequences) in Natural History. The Hen from which birds that can be allowed to be half-bred Pheasants are

obtained, must have been confined for some time previously with a Cock Pheasant, and utterly debarred from the slightest possibility of association with the Domestic Cock. In short, the evidence ought to be as clear and unmistakeable as would be required in a trial for murder, or in a claim before the House of Lords to a succession to a Dukedom. When we have truly and actually got what we are *sure* is a half-bred Pheasant, specimens of which, though unfrequent, are by no means rare, it then remains to be seen what becomes of them.

Mr. John Baily favours me with one instance of their probable destiny. "Hybrids between Fowls and Pheasants are not at all uncommon, when such birds, tame-bred, are kept together in a pen. For instance, a tame-bred Cock Pheasant will breed with a Game Hen, but I do not believe the stories of wild Pheasants visiting the ordinary inhabitants of farm-yards. I have had numbers of such mis-called Hybrids brought to me, to prove by ocular demonstration their claim to unnatural origin; but the first sight proved the reverse, they were simply Spangled Fowls.

"I have had many Hybrids. They are of all colours, but generally the back and wings are chocolate-coloured, the breast, hackle and tail black, and the legs dark. In carriage they more resemble the Pheasant than the Fowl; they are tame sheepish-looking birds, having neither comb nor gill, and no distinctly-coloured circle round the eye. The tail-feathers are longer than those of a Fowl, although not shaped like a Pheasant's; and the tail itself is carried more erect than a Pheasant's.

"It has always been my impression, that the production of such a creature, however much coveted as a curiosity, will always be regretted, when its tame, stupid, listless air, and positive uselessness, is considered in comparison with the magnificence of the Pheasant, and the courage and beauty of the Fowl. I had one of them running with common Hens for two or three years. I had a basket nailed against the wall, for the Hens to lay in. There

was a tree close to it. The unhappy hybrid, as though aware of his anomalous position in the scale of creation, and anxious to redeem it in some way, patiently waited for the Hens to lay, and then began zealously to sit on the eggs. This lasted for months; and his (should it not be 'its?') grief was visible whenever the egg was removed."

The Pheasant-Malays are large, well-flavoured, good sitters, good layers, good mothers, and in many points an ornamental and desirable stock. Some hypercritical eyes might object to them as being a little too long in their make; but they have a healthy look of not being overbred, that would recommend them to those who rear for profit, as well as pleasure. The eggs vary in size, some very large in summer, smooth but not polished, sometimes tinged with light buff, balloon-shaped, and without the zone of irregularity. Six eggs in December 1847 weighed very nearly 12 oz. The Chickens when first hatched are all very much alike; yellow with a black mark all down the back. The Cock has a black tail, with black on the neck and wings.

I have been favoured with a communication from Mr. A. Whitaker, of Beckington, Somerset, whose observations on domesticated birds I know to be so accurate as to render him an authority. He says, "I do not feel quite certain as to the particular sort of birds indicated under the title of the 'Pheasant breed.' I have seen so many and such diverse sorts called Pheasant Fowls that I have long since ceased to attach any definite idea to the designation. I fully concur in all you say in contravention of the popular notion of the existence of a prolific hybrid between the Fowl and the Pheasant.

"I have for seven years had a breed of Fowls the progenitors of which were sold to me in Hungerford Market as 'Pheasant-Malays.' The Cocks are a large-sized bird, of a dark-red colour, with a small comb; but the beauty of the breed is with the Hens, which are of a Pheasant colour in all parts of the body, with a velvety

black neck. The shape of both male and female is good. The neck is long and (as we should say of a horse) high crested, giving them an appearance quite superior to other Fowl in that particular. The colour of the Hens varies from the warmth of the plumage of the Cock Pheasant to the colder hue of the Hen Pheasant, but as I have always bred from the high-coloured birds, I now have the better colour generally predominating. The legs are white, and also the skin. They are excellent birds on table, both as to quality, shape, and size. They have no resemblance to the Malay, except that the Cocks are rather high on the legs, the Hens being the reverse. The combs of the Hens are very small. The Hens never have a foul feather, but I have never seen a Cock which does not show some small mark of white on one of his tail feathers. You will observe in the Hens of the Pheasant-Malay that the two longest tail feathers are somewhat curved, which, when the bird is full-grown, and in full feather, materially improves the appearance. They do not arrive at their full size until the second season. They lay well, but late. Their eggs are very small in proportion to the size of the birds. I should say that their weight was on the average above that of the Black Spanish, while their eggs are a third smaller. Baker, of London and Chelsea (one of the best fancy dealers), told me that they were a breed from Calcutta. They are certainly tender, and apt to die in the moulting; but the Hens, in my opinion, are unrivalled in beauty, while the Cock is a fine bird, though not so uncommon in appearance, except to an experienced eye, which will detect peculiarity of growth.

"If you do not know the Pheasant-Malays (which is merely a market name), I will send you with pleasure a Pullet and a late Cockerel. I am sorry that I cannot send an earlier Cock bird, as I apprehend that now sent will not attain average size. The Plumage of the Pullet promises well. The Hens have scarcely any comb. The Cocks always have a comb extending but a very little way

backward, but standing up so high as always to fall a little over on one side. I have never seen any variation as to the combs or the colour of the neck and tail feathers, either of males or females, which indicates them to be a real variety. The only variation I have observed is in the body-colour of the Hens, and this not in the marking, but merely in the ground colour, which is sometimes paler and duller than is the case with that of the Pullet I send. I would most cheerfully enclose some eggs, but I have none, as they very rarely lay in winter. The eggs are quite small, but of excellent flavour, neither very white nor brown; the shape varies considerably. The Chicks are of a yellowish colour, with sometimes two brown stripes down the back and a few specks about the head, but more usually without either. They have, however, invariably the hinder part of the back of an intenser or browner yellow, almost amounting to a warm fawn colour. I think that the Chicks should not be hatched before May."

The birds thus kindly offered were thankfully accepted; and after a railway journey of more than two hundred and fifty miles, stepped out of their hamper uncramped, uninjured, and undismayed by curious inspectors, and with evidently an appetite for breakfast. The Pullet was certainly a great beauty; and I was pleased to find them of the same type as the "Pheasant breed" with which I had been previously acquainted. Their richness of colour, and increase of size, being the result of skilful selection and feeding for several generations. The colour of the legs being quite white, did not agree with the Norfolk specimens, but the several varieties of Game Fowl exhibit much greater differences amongst each other. However, I now quite believe that the Norfolk specimens I had seen, had a dash of the blood of that variety of Hamburgh Fowls known as Copper Moss. This comparison of individuals, bred more than three hundred miles apart, establishes the existence of the Pheasant-Malays as a permanent variety of Fowls. The only discrepancy, which

is more apparent than real, lies in the varying size of the eggs; but I have seen so many changes in that respect in the same Hen, under altered circumstances, as to attach no importance to variation of size, unless shape and colour were also found to be different.

The Cocks display considerable courage; the Hens are jealously affectionate towards their chicks, bustling, and petulant, thus exhibiting in disposition an affinity to the Game breed.

Mr. Whitaker adds: "My male birds have a very peculiar feathering on the neck,—the neck feathers being very long and full, dark-red, and black at the tips, but the under part of a downy white. The consequence is an appearance of mixed dark-red and white about the neck, which is the more peculiar from its being so particularly at variance with the glossy black neck-feathering of the female. The feathering of the back and wings is rather scanty, and the tail is not very full. The bird has a good, erect carriage.

"The Chickens hatched in June always succeed better than those that are hatched earlier. The Chickens of this breed are very small at first, and but scantily supplied with down. As they begin to grow, they have a very naked appearance from the slow development of their feathers, and this renders them very susceptible of cold. At six weeks old they are not above half the size of Dorkings of the same age, but after two months they grow very fast, and the Pullets feather well and show indications of their permanent colour. The Cocks are ragged in appearance until five months old, after which they get their permanent plumage, and grow fast. As a sort of profitable growth I cannot recommend them, but the ornamental figure and colour of the Hens, I think, is beyond question. The flesh, at table, is extremely good and white; and they lay abundantly, though late. I have a strong suspicion from various peculiarities, that they are of comparatively recent introduction into this country from a much warmer climate.

"I once attempted to describe to you (see page 185) an oval abortion; I have since found a second, in which the similarity was complete. The upper egg which was concealed within the other, below the unclosed orifice left at the egg-stalk, was congested with blood in both cases, while the lower egg or yolk (there being two in each case within the shell) was quite natural. A fortnight after I found the latter abortion, I looked into the same nest, and saw there one of my Pheasant-Malay Pullets of last year. On looking closely at her, I saw she was dead; and on opening her, another of these abortions was seen, accompanied by general congestion of the ovarium and a vast quantity of internal fat, which I find these birds very much disposed to take on."

It is a common opinion among country-people, that mis-shapen eggs are caused by the Hen that lay them being too fat. It certainly does often happen that an over-fat Hen lays deformed eggs, but I believe that the cause has been mistaken for the effect; and that the non-production of the usual quantity of natural-sized eggs, in consequence of some peculiar state of the egg-organs, compels the superabundant nourishment taken by the bird, to be deposited in the shape of fat, instead of being secreted in the form of eggs.

THE GAME FOWL.

"*Cock-fighting.* The original of this sport is said to be derived from the *Athenians*, on the following occasion. When *Themistocles* was marching his army against the *Persians*, he by the way espying two cocks fighting, caused his army to behold them, and made the following speech to them: *Behold these do not fight for their household-gods, for the monuments of their ancestors, nor for glory, nor for liberty, nor for the safety of their children, but only because the one will not give way to the other.* This so encouraged the *Grecians*, that they fought strenuously, and obtained the victory over the *Persians;* upon which cock-fighting was, by a particular law, ordained to be annually practised by the *Athenians*, and hence was the original of this sport in *England* derived."—*Bailey's Universal Etymological English Dictionary.*

It would be easy to write a thick volume upon Fighting Cocks and Hens. No other breed runs off into so many varieties, which still are all true Game Fowls. The catalogue of sorts is a long one; and, as many of them have been preserved, for several generations (of men), distinct, in various noble and gentle families, we are led to inquire whether a more minute subdivision of species might not, in the end, lead to a more correct knowledge of the whole genus. The only objection to this is, the trouble it would cause to naturalists; but this is not the only instance in which the works of nature are difficult for human wit to grasp. It would certainly be as interesting to compare the leading varieties, well stuffed, in a museum, as it would be difficult to have a quiet assemblage of them in a court-yard.

It is not within the range of the present Essays to hunt up the distinctions of the sporting fancy, particularly

as Cock-fighting is said to have become obsolete ;* but an allusion to those distinctions may excite the curiosity of the naturalist. It is the temperament which gives the bird its value in the eye of the sportsman; its physical qualities deserve the notice of the ornithologist. But even now, many of the handsomest Game Cocks to be seen, are already trimmed (in the comb at least), in case they should be wanted in a hurry for a private spar.

The Game Cock approaches nearer to the Malay and Pheasant-Malay than to any other variety of Fowl. As we have made the Spanish Fowl, on account of his well-developed single comb, the type of the genus, so, in any circular arrangement of the genus itself, we should make the Game Fowl the centre from which the rest, in one way, or another, diverge. There are the white-legged, the yellow-legged, and the leaden or black-legged Game Fowl. These equally vary in the colour of their plumage ; the Hens also differ, though not so much ; and as some breeders think the darkest to be of the purest blood, a deep-brown Hen, with dark legs and small leaden comb, is thought to be the model bird ; but in all Game Hens, I think, the tail will be found to be large, vertical, fan-like, and well carried over the back—a distinction which continues to be very apparent in the first cross with any other breed. The flesh, even of the yellow-legged, yellow-skinned breeds is, justly, in high repute ; their eggs, also, are much prized for the table, but my own palate is not sufficiently discriminating to detect their peculiar superiority to the eggs of other Hens. They are comparatively

* Not, however, quite so obsolete as the *omnibus* beds in which the Cockfighters of former days reposed. Blomefield, in his History of Norfolk, tells us of "two very good Inns for the entertainment of travellers, the *White Hart*, much noticed in these parts, being called, by way of distinction, *Scole* Inn ; the house is a large brick building, adorned with imagery and carved work in several places, as big as the life. Here was lately a very large round bed, big enough to hold fifteen or twenty couple, in imitation (I suppose) of the remarkable great bed at *Ware*. The business of these two inns is much supported by the annual Cock-matches that are here fought."

small, contain a somewhat larger proportion of yolk, are taper, unequally elliptic, and mostly, though not always, tinged with buff.

Another general merit of the Hens, is their excellence as incubators and nurses ; a virtue in them which is no new discovery.

" Florentius is the authority, that in the Alexandria which faces Ægypt, certain Hens, from which the Fighting Cocks are produced, are called Monositæ, (*i. e.*, one-mealers, or such as eat only once a day) and that these will go on sitting for the second or third time, in consequence of their chicks being smuggled away as soon as hatched, and brought up elsewhere. It thus happens that a single Hen may hatch forty, and even sixty or more, at one sitting."—*Aldrovandi.* I have heard of their being kept on in this way, producing little Partridges and Pheasants, for nearly three months without giving their task up, and quite believe the fact.

When they are at length permitted to receive their reward in the shape of a brood of chicks, nothing can exceed their admirable conduct. The very young Hens with their first clutch, are apt to be over-anxious, and not at all forbearing to other Fowls that come in their way ; but that is a fault on the right side, and if the feathers of intruders are now and then made to fly abroad, they must grow again. The delicate proportions of the Game Hen adapt her to take charge of even the most fragile gallinaceous birds; while her courage and determination render her equal to the most robust. Every breeder or experimenter should have a nursery of Game Hens. They will be found much more generally useful, and also successful, in this country than Turkeys, the favourite incubators on the Continent.

The Game Cock is by means the aggressive sanguinary tyrant that he is commonly represented to be. He will submit to no insult or intrusion within his own domain ; but neither does he offer any unprovoked assault. If his antagonist flee, he is satisfied, and does not pursue

him, in order to perpetrate any bloody revenge. Other poultry that are killed by Game Cocks generally draw down the punishment upon themselves, by their own impudent and continued aggression. The bird, too, is as enduring of pain, as he is bold in combat. We were compelled to prevent mischief by amputating the spurs of a Game Cock: he bore the operation, and the subsequent application of hot iron to prevent bleeding, without a sound or a murmur: and when set down in the midst of his Hens, was as lofty and imperious in his carriage as ever. "Avis pugnax," "the pugnacious bird," is a term applied by Aldrovandi, not to fighting Cocks, but to Ruffs and Reeves. A false notion of their savage disposition is also derived from the sight of the sparrings of the half-grown chickens: but the Pullets will indulge in this game as well as the Cockerels. It is very rarely that mischief is meant by such tiltings. We might remember that the play of all young animals is a sham fight. Young lambs run races to obtain possession of a hillock from which the strongest will rebut the weak. Puppies snarl, and growl, and snap, and struggle, all in perfect good-nature. Kittens will roll over each other, and grapple, and show in sport the best method of disembowelling an enemy with their hind claws, if one of the playmates were but a rat. Even boys can play at French and English; and a couple of Cockerels will often stand beak to beak, making two or three jumps with outstretched neck and ruffled hackle, but with no more evil intention (for the present) than many a gentleman when he sets to his partner in a quadrille.

Sir W. Hooker gives a very pleasing instance of animal skirmishing, which he observed while making his tour in Iceland:—

"Had I been the only person to witness the following circumstance concerning the dogs in Iceland, I should scarcely have ventured to relate the anecdote; but my scruples are removed, as, so far from this having been the case, I was not even the first who saw it; for Mr. Browning, an officer of the Talbot, whose ill health confined him to

a room on shore, called my attention to it, by more than once remarking to me that he had, from his window, in the morning of several successive days, observed at a certain hour a number of dogs assemble near his house, as if by a previously concerted arrangement, and after performing a sort of sham fight for some time, disperse and return to their homes. A desire to be an eye-witness of so singular a fact, led me to go to this gentleman's room one morning, just as these animals were about to collect. The spot they frequented was across the river, which there are but two ways of passing from the town without swimming, the one a bridge, the other some stepping-stones, each situated at a small distance from the other. By both these approaches to the field the dogs belonging to Reikevig were running with the greatest speed, while their companions of the neighbouring country were hastening to the place of *rendezvous* from other quarters. We counted twenty-five of them, not all of the true Icelandic stock (the *Fiaar-huundar*), but some of different kinds, which had probably been brought to the country by the Danes; and I presume it was one of these, much larger and stronger than the rest, who placed himself upon an eminence in the centre of the crowd. In a few seconds, three or four of them left the main body, and ran to the distance of thirty or forty yards, where they skirmished in a sort of sham battle; after which one or two of these returned, and one, two, or three others immediately took their places; party succeeding party, till most, if not all, had had their share in the sport. The captain remained stationary. The engagement was in this manner kept up by different detachments, the dogs continuing their amusement in playfulness and good humour, though not without much barking and noise, for about a quarter of an hour, when the whole of them dispersed, and took the way to their respective homes in a less hasty manner than they had arrived."

Allowing for the inferior intelligence of Fowls, many of the gambols of chickens are similar to this. The Cock of

the Walk never interferes with such harmless frolics, which he would do if they threatened anything serious. Were I to compare the temperament of Game Fowls with that of the human race, I should say they had not one atom of the lymphatic in their composition, but a happy combination of the sanguine and the nervous. The Game breed among Fowls has been likened to the Arabian among Horses. Their frame is compacted of solid flesh and gristle: even the feathers of the Game Cock (excepting the standards and the hackle) fit very tightly and closely to the body of the bird, giving it, when in high condition, a sort of crustaceous or even enamelled appearance, as if it were a piece of living Japan work.

But though we wish to clear the Game breeds from the charge of blood-thirsty cruelty, we cannot hold them out as patterns of gentleness and forbearance. Might, with them, makes right. None but the brave, however well they may deserve, or how much soever they may long for, are likely to enjoy any favour from the present class of rusty-fusty coloured beauties. Quiet people, unless they have studied Phrenology, or kept Game Fowls, have little idea how close a connexion there is said to be between love and murder. But the ladies have long found it out; there is no sweetheart like a soldier. A constantly pacific male is despicable in their eyes. "Eh! si je veux qu'il me batte!" "If I choose my husband to beat *me*, what business is that of *yours?* A pretty state of things, when a woman may not permit her own husband to beat her!" So wrote the great Molière, in the high-heeled, periwigged reign of Louis XIV. But civilised and uncivilised nature is alike. The southern she-savage, when her brute lifts his waddy, to give her a tap on the head that would fell an English ox, bows thankfully to receive the caress on her indurated noddle, and triumphs that the compliment was not bestowed upon either of the other squaws. Here are some like doings in chivalrous Spain:—

"There was a burly, savage-looking fellow, of about forty, whose conduct was atrocious; he sat with his wife,

or perhaps concubine, at the door of a room which opened upon the court: he was continually venting horrible and obscene oaths, both in Spanish and Catalan. The woman was remarkably handsome, but robust, and seemingly as savage as himself; her conversation, likewise, was as frightful as his own. Both seemed to be under the influence of an incomprehensible fury. At last, upon some observation from the woman, he started up, and drawing a long knife from his girdle, stabbed at her naked bosom; she, however, interposed the palm of her hand, which was much cut. He stood for a moment viewing the blood trickling upon the ground, whilst she held up her wounded hand, then, with an astounding oath, he hurried up the court to the Plaza. I went up to the woman and said, 'What is the cause of this? I hope the ruffian has not seriously injured you.' She turned her countenance upon me with the glance of a demon, and, at last, with a sneer of contempt, exclaimed, '*Caráls, que es eso?*' 'Cannot a Catalan gentleman be conversing with his lady upon their own private affairs without being interrupted by you?' She then bound up her hand with a handkerchief, and, going into the room, brought a small table to the door, on which she placed several things, as if for the evening repast, and then sat down on a stool; presently returned the Catalan, and without a word took his seat on the threshold; then, as if nothing had occurred, the extraordinary couple commenced eating and drinking, interlarding their meal with oaths and jests."—*Borrow's Bible in Spain*, vol. ii., p. 53. The lady was as submissive, as affectionate, and withal as petulant, as the Game Hen, on whom her lord bestows three or four sharp pecks in punishment for ill-behaviour. We are conscious that we are now decidedly wandering; but, as a relief from the description of quill feathers and the weight of eggs, must really give an additional instance of the compatibility of even friendship with slaughter.

"In the course of the day, our men went down to a small brook, which flowed between the opposing armies,

for water; and French and English soldiers might be seen drinking out of the same narrow stream, and even leaning over to shake hands with each other. One private, of my own regiment, actually exchanged forage-caps with a soldier of the enemy, as a token of regard and good will. Such courtesies, if they do not disguise, at least soften the horrid features of war; and it is thus we learn to reconcile our minds to scenes of blood and carnage."—*Recollections of the Peninsula*, p. 110.

"It was a strange thing to see, in the crowded wards of the hospital, English and French soldiers lying helplessly side by side, or here and there performing little kind offices for each other, with a willing and a cheerful air. Their wants and thoughts, I observed, they communicated to each other in phrases of Spanish, which language many of the French privates spoke fluently, and our men understood well enough for all common purposes." —*Id.* p. 168.

Game Cocks are led on to battle by blind instinct, and have no higher directing principle. Shall we men ever retain the virtue of friendship, and abolish the act of slaughter? Or would the abolition of bloody warfare be succeeded by some more villainous mode of gaining pre-eminence over each other?

As to Cock-fighting, I must believe it to have been made the theme of much ignorant cant. Hawking is a noble and honourable pastime, Cock-fighting is low and disgraceful. I have never seen a Cock-fight, and probably never shall. From what one has heard, and read, it must be most exciting sport; but people who are proud of Waterloo, who dine off hunted hare, and breakfast on shrimps that have been boiled alive, allude to it with horror, as an atrocity incredible and unmentionable. Cocks, however, must die. Would a Cock that had been fought, be worse eating than a hare that had been hunted? And as to the mode of death,—ask a Cock which he would choose,—to be hung up by the heels, and have the cook run a knife up his throat, taking care that he bleed

long, and die slowly, in order that his flesh may be so much the nicer and whiter,—or, to be set face to face with his adversary, and fight for his life!—if he win, to be petted and praised; if he fall, to have his existence cut short by one sharp merciful thrust, instead of the lingering faintness of a culinary departure? The combat is a pleasure; the survivorship, a fair chance.

But Cock-fights were shamefully barbarous; they made people so hard-hearted and unfeeling, and gave rise to *so much* gambling: and as we have now no smooth-faced villains, nor any lying, double-tongued, intriguing robbers in the country; as we never now get rid of rivals, or people that stand in our way, by hunting them to death with persecution and calumny; secret poisoning, also, and infanticide, being unsuspected amongst us; above all, as gambling and swindling, of whatever kind, is utterly abolished, particularly in London and some neighbouring towns, such as Epsom, it will be a great pity if ever another Game Fowl is hatched in England—the poultry sent to market being so much more humanely put to death: although one does see a few thorough-bred birds now and then, and hears faint rumours of an occasional amicable trial of strength.*

* I am informed that in certain places in Warwickshire, and in the adjoining county of Staffordshire, the effects of Cock-fighting still continue to be impoverishing, demoralising, and degrading to its followers, clothing them and their families in rags. It is no uncommon thing among the working people of that district to stake the whole of their week's hard earnings upon a single fight. What must be the wretchedness and misery brought upon the families thus deprived of their only means of subsistence? Cock-fighting, with these results, is a terrible evil, for other reasons than mere sentimental talk about its *cruelty*. People can go and see a poor girl, or a reckless man, whom they believe to be endowed with immortal souls, daily expose themselves to be destroyed in a moment by lions and tigers, but they are too delicate to witness the shedding of a cock's blood. It is the *gambling* which is the great immorality; of course, the assembling of so many low characters must be dangerous to the well-being of society. But the local magistrates surely have power, if they choose to exert it, of legally putting down such gambling, and preventing such assemblies;

There is a very graphic account of a main, conducted *secundum artem* in by-gone days, to be found in Blaine's "Rural Sports." But Cock-fighting is of older date than modern fashionable refinement, and may possibly survive it. "The Alexandrians," says Statius, quoted by the Quarterly Review, "were indifferent soldiers, but the best of singers, and only surpasssd by their compatriots, the Alexandrian Fighting Cocks, as an appendage to Roman supper-parties." We have heard of a nobleman of the old school having a few couples of Cocks up into the drawing-room, as an agreeable interruption to the tiresome rubbers of whist. But before noblemen and their drawing-rooms were invented hereabouts, these little turns-up were unthinkingly made a source of amusement. Read what an observant traveller, and really estimable man, who could not himself have been deficient in courage, either physical or moral, has recorded.

"The most ancient, but certainly not the most innocent game among the Tahitians, was the *fuatito-raamoa*, literally, the causing fighting among Fowls, or Cock-fighting. The Tahitians do not appear to have staked any property, or laid any bets, on their favourite birds, but to have trained and fought them for the sake of the gratification they derived from beholding them destroy each other. Long before the first foreign vessel was seen off their shores, they were accustomed to train and fight their birds. The Fowls designed for fighting were fed with great care; a finely-carved *futapua*, or stand, was made as a perch for the birds. This was planted in the house, and the bird fastened to it by a piece of curious cinct, braided flat that it might not injure the leg. No other substance would have been secure against the attacks of his beak. Their food was chiefly *poe*, or bruised bread-fruit, rolled up in the hand like paste, and given in small pieces. The Fowl was

and the police would be better employed in preventing such ruinous infringements of the law, than in many of the cases on which they try their prentice hand in a desperate effort to obtain their maiden conviction.

taught to open his mouth to receive his food and his water, which was poured from his master's hand. It was customary to sprinkle water over these birds to refresh them. The natives were universally addicted to this sport. The inhabitants of one district often matched their birds against those of another division. They do not appear to have entertained any predilection for particular colour in the Fowls, but seem to have esteemed all alike. They never trimmed any of the feathers, but were proud to see them with heavy wings, full-feathered necks, and long tails. They also accustomed them to fight without artificial spurs, or other means of injury. In order that the birds might be as fresh as possible, they fought them early in the morning, soon after day-break, while the air was cool, and before they became languid from the heat. More than two were seldom engaged at once, and so soon as one bird avoided the other, he was considered as *vi*, or beaten. Victory was declared in favour of his opponent, and they were immediately parted. This amusement was sometimes continued for several days successively."—*Ellis's Polynesian Researches*, vol i., p. 302.

It would appear from Mr. Ellis, that there are innate ideas in the human understanding, one of which is Cock-fighting. The Tahitians manifest their simplicity in fighting for love, not for money. Other barbarians show themselves to be more sophisticated.

"Throughout every rank of the people of Sumatra there prevails a strong spirit of gaming. Cock-fighting they are still more passionately addicted to, and it is indulged to them under certain regulations. Where they are perfectly independent, their propensity to it is so great, that it resembles rather a serious occupation than a sport. You seldom meet a man travelling in the country, without a Cock under his arm, and sometimes fifty in a company, when there is a *bimbang* in one of the neighbouring villages. A countryman coming down, on on any occasion, to the *qualloe*, or mouth of the river, if he boast the least degree of spirit, must not be unprovided with

this token of it. They often game high at their meetings; particularly when a superstitious faith in the invincibility of their bird has been strengthened by past success. An hundred Spanish dollars is no very uncommon risk, and instances have occurred of a father staking his children or wife, and a son his mother or sisters, on the issue of a battle when a run of ill-luck has stripped them of property, and rendered them desperate. Quarrels attended with dreadful consequences, have often arisen on these occasions.

"By their customs, there are four umpires appointed to determine on all disputed points in the course of the battles, and from their decision there lies no appeal except the Gothic appeal to the sword. A person losing, and who has not the ability to pay, is immediately proscribed, departs with disgrace, and is never again suffered to appear at the *galangang*. This cannot with propriety be translated, a *Cock-pit*, as it is generally a spot on the level ground, or a stage erected, and covered in. It is inclosed with railing which keeps off the spectators; none but the handlers and heelers being admitted within-side. A man who has an high opinion of and regard for his Cock, will not fight him under a certain number of dollars, which he places in order on the floor; his poor adversary is perhaps unable to deposit above one half: the standers-by make up the sum, and receive their dividends in proportion, if successful. A father, at his death-bed, has been known to desire his son, to take the first opportunity of matching a certain Cock, for a sum equal to his whole property, under a blind conviction that he was *betooah*, or invulnerable.

"Cocks of the same colour are never matched, but a grey against a pile, a yellow against a red, or the like. This might have been originally designed to prevent disputes, or knavish impositions. The Malay breed of Cocks is much esteemed by connoisseurs who have had an opportunity of trying them. Great pains is taken in the rearing and feeding; they are frequently handled, and accustomed

to spar in public, in order to prevent any shyness. Contrary to our laws, the owner is allowed to take up and handle his Cock during the battle; to clear his eye of a feather, or his mouth of blood. When a Cock is killed, or runs, the other must have sufficient spirit and vigour left to peck at him three times, on his being held to him for that purpose, or it becomes a drawn battle; and sometimes an experienced cocker will place the head of his vanquished bird in such an uncouth posture, as to terrify the other, and render him unable to give this proof of victory. The Cocks are never trimmed, but matched in full feather. The artificial spur used in Sumatra, resembles in shape the blade of a scimetar, and proves a more destructive weapon than the European spur. It has no socket, but is tied to the leg, and in the position of it the nicety of the match is regulated. As in horse-racing, weight is proportioned to inches, so in cocking, a bird of superior size and weight, is brought to an equality with his adversary, by fixing the steel spur so many scales of the leg above the natural spur, and thus obliging him to fight with a degree of disadvantage. It rarely happens that both Cocks survive the combat.

"In the northern parts of the island, where gold-dust is the common medium of gambling, as well as of trade, so much is accidentally dropped in weighing and delivering, that at some cock-pits, where the resort of people is great, the sweepings are said, probably with exaggeration, to be worth upwards of a thousand dollars per annum to the owner of the ground; beside his profit of two *fanams* (fivepence) for each battle.

"In some places they match quails, in the manner of Cocks. These fight with great inveteracy, and endeavour to seize each other by the tongue. The Achenese bring also into combat the dial-bird (*moori*) which resembles a small magpie, but has an agreeable, though imperfect note. They sometimes engage one another on the wing, and drop to the ground in the struggle."—*Marsden's History of Sumatra*, pp. 236-8. London, 1783.

This extraordinary account is not without the confirmation which it needs :—

"The Indians (of Manilla) in common with all Malays, are passionately fond of Cock-fighting, but they are not permitted to indulge at pleasure this inclination. An Indian rarely walks out without a Cock, and as soon as he meets another Indian with one under his arm, the two birds are set down, and immediately engage : but battles with steel spurs are only permitted in a place formed for the purpose, which is farmed from the king at a rent of twenty or twenty-five thousand dollars : here the Indians assemble, and frequently bet on their favourite Cocks the whole of what they are worth. The fate of the gamesters is soon decided, for the Cocks being armed with sharp spurs, one or the other is killed almost in an instant."—*De Guigne's Observations on the Philippine Islands.*

But abstinence from Cock-fighting sometimes meets with its reward.

"The fort (at Achin) was but sorrily governed when I was there ; nor was there that care taken to keep a fair correspondence with the natives in the neighbourhood as I think ought to be, in all trading places especially. When I came thither there were two neighbouring *Rajas* in the stocks, for no other reason but because they had not brought down to the fort such a quantity of pepper as the governor had sent for. Yet these *Rajas* rule in the country, and have a considerable number of subjects, who were so exasperated at these insolences, that, as I have since been informed, they came down and assaulted the fort, under the conduct of one of these *Rajas*. But the fort, as bad as it is, is guarded enough against such indifferent soldiers as they are : who, though they have courage enough, yet scarce any arms besides back-swords, cressets, and lances, nor skill to use artillery if they had it. At another time they made an attempt to surprise the fort, under pretence of a Cock-match ; to which they hoped the garrison would come out, to share in the sport, and so the fort left with small defence. For the *Malayans*

here are great lovers of Cock-fighting, and there were about 1000 of them got together about this match, while their armed men lay in ambush. But it so happened that none of the garrison went out to the Cock-match, but one *John Necklin*, a *Dane*, who was a great gamester himself; and he discovering the ambush, gave notice of it to the governor, who was in disorder enough upon their approach; but a few of the great guns drove them away." —*Mr. Dampier's Voyages*, vol. ii. (*Supplement*). London, MDCC. p. 184.

Not wishing, therefore, to stimulate our youth to Cock-fighting, any more than we would lead them to over-sensitive refinement or spurious humanity, we will give no further directions about the rearing of Game-chicks, (although it would be very easy to do so) than to state that instead of allotting twenty-four Hens to one Cock, in a "ward" too, as has been currently published and believed to be a good plan, one Cock, with two, or at most three Hens, should be quietly located at large in some spot where they are secure from giving or receiving interruption. The Cockerels three-quarters grown (an example to our lads) are not permitted to run as they choose with any society that may offer, but are withdrawn to quiet, rural, airy, grassy walks, where they are encouraged to scratch the ground as much as they like, to increase their means of livelihood, and are removed from the temptation (the possibility indeed) of having any but the most discreet female society. Cocks so educated are valuable for better purposes than for fighting and being betted upon. They become first-rate fathers of families. If a stock of Poultry is flagging and degenerate, the owner hardly knows why, the admission of a good Game Cock will soon set all to rights. His very look and air inspire health and cheerfulness into the dispirited Hens. He fertilises the eggs of every variety of Domestic Fowl, from the little Black Bantam to the portly Dorking. The issue of such crosses does not always resemble either parent, but it is sure to be something pretty, useful, and

thrifty. "Bad the crow, bad the egg," κακοῦ κόρακος κακὸν ὠὸν. *Vice versâ*, good the Cock, good the Chick; there is certainly something in breeding.

The males of almost every variety are lovely creatures, though tastes differ as to the preference. They do not attain their perfect plumage till their third year, and perhaps increase in beauty for a year or two afterwards. I think I have heard that according to the modern rules of the Pit, birds are not admissible after they have attained a certain age and weight. But all this is nothing to us. We are looking after ornamental, and incidentally, useful qualities. The red birds, so called, are mostly splendid and dashing in their appearance; the yellow-legged tribe are very gaudy, bright, and strongly contrasted, though apt to be a little under-sized; the duck-winged greys, so called from their iridescent wing-coverts, which remind one of the speculum in a Duck's wing, are most harmoniously coloured, softly, yet brilliantly tinted, and only not sufficiently rare to be admired with enthusiasm.

As before observed, it is not our present task to enter into the minute and technical distinctions of Game Fowls. An industrious examination of them with good opportunities, might lead to very interesting conclusions. Meanwhile, we will print one valuable and original record, as a commencement.

"There are evidently two varieties of the Game Fowl, if not more. (Assuredly.) The first, occasionally seen in the yard of the farmer, is a bird over the average size, and rather heavily formed; rather too much comb; breast quite black; neck, back, and wings of a very deep red, tail glossy green. The Hen plain brown, with a lighter coloured neck, sometimes a little streaked with ochre; legs light coloured, or white.

"The other variety, which I much prefer, and now possess, is a smaller Fowl, of a peculiarly light and elegant make; head very small and fine; neck, light orange-red; breast, richly spotted, as are also, in a degree, the wings; back, very rich red; tail, glossy greenish

black; legs, dark. Hens, brown of various shades, the feathers being streaked with pale ochre down the middle, the same as Pheasants; comb, in the Cocks, very small, and not large in the Hens.

"These are most high-spirited birds, and will soon gain the ascendancy of any yard. The eggs are slightly tinged with yellow buff, rather small and long in shape. Hens, good layers and sitters. Chicks, when first hatched, exceedingly pretty, being marked with a deep brown streak on the head and neck, that continues down the back. They are hardy little things, and easy to rear. How many degrees removed from the Pheasant this breed may be, is difficult to say, (they are as widely removed as the North from the South Pole, or Dogs from Cats, as far as relationship is concerned,) but there is evidently a strong family likeness. (True, if we regard natural affinity merely.) The Pheasants here have no objection, at any time, to an occasional admixture (socially, we believe, not amatively) with the Domestic Poultry, I imagine: and the parties will often meet in our shrubberies, to partake of the berries of the Symphonia racemosa, or snowberry, of which they are both excessively fond, and will often jump up to some height to procure them. This breed of the Game Fowl we have found excellent and high-flavoured.

"Some years since I had a Game Hen sitting in a cow-crib, with the usual quantity of eggs. Long before any chicks could be making their appearance, I several times noticed some living thing run from under the Hen on taking her up. This I afterwards discovered to be a fine mouse, that repaired there for warmth every day; and it was a curious sight on the day the chicks came out, to see it nestling among them, the Hen looking on most complacently. She was, however, very savage to human kind, and would peck your hand severely if put into the nest.

"But Poultry, in general, enjoy mouse-catching, and will often, when a rick is taking in, watch for and seize

them with uncommon certainty, and then peck them to pieces and eat them."—*H. H.*

In confirmation of which, here is another case:—"I think I told you my Dorking and Spanish Hens are famous mousers. When a stack is got in, they prowl about, and woe to any unfortunate mouse that escapes the men's hands; while making off, they pounce upon it and eat it up. A few days since, a boy in my yard saw a weasel very busy in a pea-stack, driving the mice about—the latter of course in great consternation. After a little while, two mice bolted, jumped off the stack to escape their implacable enemy, but fell into as bad hands; for they were both seized by Hens, pecked to death, and eaten up in no time. It was strange that a weasel should act as a jackall to fowls. Yesterday I threw a large field-mouse to a Hen, and watched her peck it, and then eat it up."—*W. D. F.*

"A red and white Game Cock of any breed, is called *a Pile;* thus I have heard a Malay Cock that was white with a red back, called a Pile, but I am not quite sure that the expression is applied to birds that are not Game. So the Staffordshire Pile must be red and white."—*J. S. W.*

The Furness Game Fowl.—"When, or from what place this truly beautiful specimen of the Game tribe was introduced, is quite a mystery even with the fanciers and breeders of it. The Cock is a bird of singular and handsome appearance. The neck, body, and tail are of a beautiful shining black, very rich and lustrous, with a saddle of light buff. The Hen is perfectly black, with occasionally a slight touch of gold in the hackle. In some specimens both Cock and Hen had a golden hackle, but I should say that such had been crossed with some other variety."—*F. S. B.* "Besides this, there is the black-breasted copper-winged Furness, which is entirely black all over, except the wings, the feathers of which are copper-coloured. Then very nearly allied to these in colour is the Pole-cat Game Fowl, differing from the

Furness only in having more of light or straw-coloured feathers upon him, his wings being of that colour in addition to the markings of the Furness; his breast and the rest of his body being generally black, but sometimes his breast is shady or streaked.

"*The Piles* are universally known as Cheshire Piles, Staffordshire Piles, and streaky-breasted Red Piles. Cheshire Piles have always a thoroughly red back, with all the rest of the feathers white, excepting occasionally that the breast is streaked with red also. Staffordshire Piles are similar in markings to the Cheshire Piles, but of a yellower cast (or what is called by breeders 'carrotty'), approaching to an orange-yellow; the breast is also sometimes streaked with the same colour as the back. White is the predominating colour both in the Staffordshire and the Cheshire Piles. Streaky-breasted Red Piles are in all respects like the brown-breasted Red Game Fowls, with this addition, that the wings are partly white, and the tail also partly white.

"*White Game Fowl* are well known in the Midland Counties, and in the opinion of some, are the most chaste and beautiful variety of all, and are highly prized by those who keep them. They differ in nothing from the class of Fowls to which they belong, except in colour, which is uniformly white. But for years past the breeders have been so much in the habit of crossing the different coloured birds, which no doubt improves them for fighting purposes, that it has caused great confusion in the feather, and rendered it extremely difficult to breed distinctly-marked birds with certainty."—*J. B.*

The famous breed of Game Fowls belonging to the Earl of Derby are black-breasted Reds, and do not differ from other birds of the kind, except in being a select family, with occasional judicious crosses, as with those of Lord Sefton, Mr. Germain, Mr. Potter, Mr. Folkes, and Dr. Taylor. Mr. Richardson has puzzled his readers by stating, "that the breed has never yet been known to turn tail, notwithstanding the pertinacious adherence of a *white*

feather to the pile—a blemish that no breeding has been able to eradicate, but which, notwithstanding the well-known proverbial prejudice to the contrary, has, in this instance, been the never-failing concomitant of courage." Now a Pile is a peculiar kind of Game Fowl, not any *part* of one to which *a white feather can* adhere. Poor Richardson, being induced to write little books faster than he could clearly grasp their subjects, perhaps did not quite understand his own expression: but through the kindness of the Earl of Derby, I am enabled to give an account of the breed, furnished by the person who has charge of the birds: it is still retained in its original purity, for the sake of its ornithological, not its gladiatorial value.

Mr. Thomas Roscoe states, "I have known the best of Game Cocks to turn off when out of condition, but not on any other occasion. The original blood has been in the hands of John Roscoe and family, as breeders to his Lordship, for sixty years, and I should suppose it came to Knowsley in Lord Strange's days, the grandfather of the present Earl.

"The Cock is a fine round-shaped bird, with white striped bill; daw eyes and fiery; round and strong neck; fine, round, close-feathered hackle, feather points to shoulders; short, stiff, broad back, close-feathered and hard; tail long and sickled, well tufted at root; wings round and well prolonged, so as to protect the thighs; breast broad and black; belly small and tight in the pinions; thighs short and thick, well set to the body; legs long and white; smooth insteps; claws strong; nails long and white; the comb of a stag is rather large and red, before being cut; weight about 5 lbs.

"The Hen is of a fine round shape, in colour resembling a partridge, with daw eyes, white legs, toes, and nails, and large and fanned tail. The Chicks when first hatched incline to yellow, with a darkish stripe down their back, changing colour as they advance in age. The eggs vary in colour; I should prefer those inclined to buff; they are generally well-proportioned, inclining to length. The Hens are capital sitters and nurses.

"We generally cut the combs of the young Cocks when between six and nine months old; the spurs are left on to defend them on their walk, and are only cut off when they are penned up previous to fighting, in which state they spend about eleven days, and are trained by making them sparr in warm rooms, with boxing-gloves made to fit the heel, and prevent them from hurting each other. The *feeding part*, on which so much depends, *is a great secret*." [Every feeder has his own secret, and no two secrets are probably the same.]

"I have known them frequently attack men, dogs, calves, pigs, turkeys, and geese; and a single bird has killed seven of its opponents in one day when fighting in our trial mains at Knowsley."

Neither John Roscoe, nor his son Thomas Roscoe, ever had anything to do with the feeding of the late Lord Derby's game birds, or the training them for the Pit on their own account, but there were always regular persons called "feeders" or "trainers," who made it their business, and were employed by different gentlemen who had mains, and under whose special care and direction the birds were always placed for a certain time previous to their being brought out to fight. Roscoe, and his son, now living, having for many years seen the course and the methods pursued by these trainers, and under whose orders they had to act, have no doubt picked up, and remember some of the secrets of the trade which used to exist among them, and to be kept with very great jealousy; but they were never employed themselves as feeders, except as any other servant might have been who was supposed to have some little knowledge on the occasion of the trial mains, which always occurred previous to the regular public mains of the match, in order to test the goodness of the different crosses from which the selection of the combatants was to be made. A system was universally adopted by all Cockers of distinguishing the several breeds, by special artificial marks attached to each cross, so that a Cock marked so and so,

was put down with a certain number of Hens marked, say "light eye," to breed at a particular spot or farm, the produce of which would be marked by the mixture of the parents' marks. The eggs from these were all gathered up regularly, and set, and the chickens put out to be brought up at different farm houses or cottages, and regularly looked after by old Roscoe, as Cocker, who kept a regular book, in which they were entered as correctly as any tradesman or mercantile firm would keep their accounts; so that at any moment Roscoe could tell Lord Derby how many Cocks he had of any particular sort, of what age, and where they each were, in case any should be wanted, or for the purpose of selecting the combatants for each main. It was necessary to ascertain that no other Cock was kept by the farmer, nor one too near a brood walk, nor any Turkeys, nor other nuisances that might injure the Cocks by setting them fighting; neither were the people allowed to hoffle the Hens, so as to prevent their scratching. These, and various other such matters, as the Dubbing, as the comb-cutting the young Cocks was called, the marking of the chickens, &c., were the office of Roscoe, for whom a horse was always kept, that he might be able to go round to the distant farms, &c., and see that all was right, or else remove the birds elsewhere. The chickens, as soon as hatched, were marked and then put out to nurse among the cottagers of the neighbourhood, who were allowed to keep as many Hens of any kind as they liked, and often obtained thus a sort of cross breed, which obtained some sort of notoriety. They were also paid a certain sum for each chicken taken away. When Lord Derby was about to fight a main, he used to look over his Cock Book and select a certain number of each of the sorts he might choose for that particular main; orders were then given to Roscoe to bring up such Cocks from such and such a walk in his book, and those selected as fit were placed under his care in a particular building at Knowsley, till the Trainer or Feeder could come and see to them, which was always

at a particular period before the public main. These birds were then put up by the Feeder as he would have done for the main itself, and Lord Derby, with a few friends in his confidence, assembled to witness the trial, for which his Lordship almost always had down his own regular Setter, and report was regularly made as to the conduct of each bird in these preliminary combats. The birds selected for these, were of course not the very best, but generally chosen because of some slight defect or accident which would have been undesirable to have produced in the public Pit, but which did not interfere with the powers or prowess of the bird, and would thus afford a clue to judge of the qualities of his brethren. Some sorts were thus of course at once condemned, and others removed for further trial, and some selected for keeping as stock for breeding and fighting. According to these reports a sufficient number of each approved sort were set aside from the stud-book for the regular main, and collected shortly before it to be handed over to the regular Feeder, of whom Lord Derby employed several. The last who fed for his Lordship many years, was one Potter, who has now been dead some time, and his son has sometimes followed the same line. There used to be very great jealousy observed amongst the Feeders, so much so, that young Potter and Roscoe always slept in the Pen-room previous to, and during a main, and the key was never out of their possession, or the Feeder's; nor sometimes could even Lord Derby's son have obtained admission, unless with one of them, or as a very great and special favour. After Lord Derby gave up his mains, Roscoe, and, since his death, his son, has been employed in the care of the decreased number of Game Fowls about Knowsley, for the supply of the House with poultry and eggs, and with Hens for incubation; but a good many more were given to Roscoe to do as he pleased with; so that whenever the present Earl wanted to send some to foreign countries, he could not tell where to apply, and was obliged to have recourse to the present

Roscoe to find out the small remaining stock. The correctness of the breed now in his Lordship's possession, therefore, depends entirely upon him. The terms used by Cockers for cutting the combs of Cock chickens, is "dubbing;" and birds of the first year are called Stags. The late Lord Derby was so biassed by his cocking tastes, as to consider the Fowl in its natural state not fit to be looked at in comparison to one that was properly dubbed, cut and trimmed for fighting: nor need this surprise us if we remember how much depends upon habit and fashion. Crop-eared dogs, nicked horses, perriwigged beaux, powdered and hooped belles, have all been admired as *the* beau ideal of their class; and even in 1850, we should rather like to see the face of a sheep-master on his sudden and unexpected introduction to a flock of long-tailed, undocked Leicesters.

That in some parts of the world Cock-fights are an attraction even to ladies of high degree, appears from a clever letter, dated June 15, 1840.

"The high-road leading from Mexico to San Augustin is covered with vehicles of every description. Those who are not fortunate enough to possess any wheeled conveyance, come out on horse, ass, or mule, single, double, or treble if necessary; and many hundreds trudge out on foot. The President of the Republic himself, in his carriage and six, and attended by his aides-de-camp, sanctions by his presence the amusements of the fête. The Mexican generals and other officers, follow in his wake, and the gratifying spectacle may not unfrequently be seen, of the President leaning from his box in the *plaza de gallos*, or Cock Theatre, and betting upon a Cock, with a coatless, bootless, hatless, and probably worthless ragamuffin in the pit!

"We went to the *gallos* about three o'clock. The Plaza was crowded, and the ladies, in their boxes, looked like a parterre of different-coloured flowers. But whilst the Señoras in their boxes did honour to the fête by their brilliant toilet, the gentlemen promenaded round the circle

in jackets, high and low being on the same curtailed footing, and certainly in a style of dress more befitting the exhibition. The President and his suite were already there, also several of the foreign ministers.

"Meanwhile, the Cocks crowed valiantly, bets were adjusted, and even the women entered into the spirit of the scene, taking bets with the gentlemen *sotto voce* in their boxes, upon such and such favourite animal. As a small knife is fastened to the leg of each Cock, the battle seldom lasted long, one or other falling every few minutes in a pool of blood. Then there was a clapping of hands, mingled with the loud crowing of some unfortunate Cock, who was giving himself airs previous to a combat where he was probably destined to crow his last. It has a curious effect to European eyes, to see young ladies of good family, looking peculiarly feminine and gentle, sanctioning by their presence this savage diversion. It is no doubt the effect of early habit, and you will say that at least it is no worse than a bull-fight; which is certain—yet cruel as the latter is, I find something more *en grand*, more noble, in the

> 'Ungentle sport that oft invites
> The Spanish maid, and cheers the Spanish swain;'

in the roaring of the 'lord of lowing herds'; the galloping of the fine horses, the skill of the riders, the gay dresses, the music and the agile matador; in short, in the whole pomp and circumstances of the combat, than when one looks quietly on to see two birds peck each other's eyes out, and cut each other to pieces. Unlike Cock-pits in other countries, attended by blacklegs and pickpockets and gentlemanly *roués*, by far the largest portion of the assembly in the pit was composed of the first young men in Mexico, and for that matter, of the first old ones also. There was neither confusion, nor noise, nor even loud talking, far less swearing, amongst the lowest of those assembled in the ring; and it is this quiet and orderly behaviour which throws over all these incongruities a

cloak of decency and decorum, that hides their impropriety so completely, that even foreigners who have lived here a few years, and who were at first struck with astonishment by these things, are now quite reconciled to them.

"As far as the company went, it might have been the House of Representatives in Washington; the ladies in the gallery listening to the debates, and the Members in the body of the house surrounding Messrs. —— and ——, or any other two vehement orators; applauding their biting remarks and cutting sarcasms, and encouraging them to crow over each other. The President might have been the speaker, and the corps diplomatique represented itself. In the evening a ball is given in the *plaza de gallos.*"—*Life in Mexico, by Madame Calderon de la Barca*, p. 164.

Among the amusements at Lima, so late as 1849, "The Cock-pit is a great attraction, and all classes frequent it. The Cocks fight in spurs, so the fight is soon over. My stay there was not long; a very fierce-looking fellow with a sword-stick said 'bet:' I did; a cock fell, and he pocketed the money and walked off. Amusing! Drinking coffee under the vines pleased me better."—*Walpole's Four Years in the Pacific*, vol. ii. p. 33.

THE HAMBURGH FOWLS.

" A yerd she had enclosed all about
With stickes, and a drie diche without,
In which she had a cok highte Chaunteclere,
In all the land of crowing n'as his pere :
His vois was merier than the mery orgon
On masse daies that in the chirches gon :
Wel sikerer was his crowing in his loge
Than is a clok or any abbey orloge :
By nature he knew eche ascentioun
Of the equinoctial in thilke toun,
For whan degrees fiftene were ascended,
Than crew he that it might not be amended.
His combe was redder than the fin corall,
Embattled as it were a castel wall ;
His bill was black, and as the jet it shone,
Like asure were his legges and his tone (toes),
His nailes whiter than the lily flour,
And like the burned gold was his colour."

Chaucer, The Nonnes Preestes Tale.

It has been no easy task to reconcile the synonyms of these breeds. Richardson gives the name of Hamburghs to the Gold and Silver Polands, a top-knotted variety. Dickson, in his brief, careless, and very loose description, is right in asserting the breeds, both of Golden and Silver Hamburghs, to be combed. His Pencilled Dutch Fowl, " regularly imported from Holland," is the same thing under another name. He has also given a separate place in his list to the Turkish Fowl, apparently unaware that the *Gallina Turcica* of Aldrovandi is the Hamburgh Fowl of modern London dealers. Richardson also gives separate notices of the Dutch Every-day Layers, the

Turkish Fowl, and the Dutch Fowl, and thinks proper at the same time to sneer at "inexperienced writers, *compilers* rather." Moubray, to whom the merits at least of originality and practical knowledge ought to be conceded, appears to have been acquainted only with the English stock. He says of *The Coral, or Bolton Greys*, "This variety, apparently the crack breed of their vicinity, but entirely unknown in the metropolis,* is described by the Rev. Mr. Ashworth, Vicar of Tamworth, as follows:—'Small sized, short in the leg, and plump in the make. The colour of the genuine kind, invariably pure white in the whole lappel of the neck; the body white, thickly spotted with bright black, sometimes running into a grizzle, with one or more black bars at the extremity of the tail; they are chiefly esteemed as very constant layers, though their colour would mark them for good table-fowl.' Certain other breeds (in Lancashire) are described, but they do not appear to possess any title to distinction." In the eighth edition a coloured figure is given, which quite corresponds with the Silver Hamburghs. Why they should be called Corals, it is difficult to say, unless it be on account of their red comb; which, however, is not redder than that of other Fowls.

In some parts of the South of England they are styled Creoles, a more apt title, as they really are a mixture of blacks and whites. We give a clear and practical account of them under that denomination.

"The Creole.—I have been unable to identify this neat and pretty little species with any mentioned by the few writers on Domestic Poultry. The 'Pencilled Dutch Fowl,' spoken of by Dickson, appears to come nearest to it. My specimens were imported from Lisbon,† by Sir

* The Silver Hamburghs are even now (1848) scarcely known in Norfolk, the English county which, perhaps, enjoys the highest reputation of any for its poultry; marks of crossing with the Golden Hamburgh are occasionally to be seen in farm-yard fowls.

† "Hamburgh grapes come from Spain and Portugal. What is the origin of the name? In the reign of Queen Anne, at the Methuen treaty with Portugal, 1703, my grandfather accompanied the Marquis

Alexander Malet, a relative of mine, when Ambassador abroad; but I have found rather a difficulty in rearing them, and have at present no male.

"The Hen has a rose comb, pure white neck and breast, and the rest of the body most exquisitely pencilled with bluish slate-colour and white, legs light blue. The Cock has the back and neck greyish white, breast and wings slightly spotted, tail nearly black, fine double comb. These Fowls are the most perfect patterns of neatness in make, and are under the average size. They are excellent layers, and pretty fair mothers; eggs rather small, French-white, and slightly tapering at one end. The chicks are white, except a dark streak on the head, and down the nape of the neck—a curious fact, as when adult, this is the only part without dark markings. When their little barred wings begin to appear, they are very pretty; but are certainly rather difficult to rear, many of those I have had dying off when a quarter grown, from some cause, the only symptom being, the skins turning black.

"There is also a spurious breed of this variety sold in towns, that are larger, but by no means so neatly made; the necks mixed with specks, and the slate and white markings confused on the body. They are beautifully distinct in the true sort. We have found the Creoles very good eating."—*H. H.*

In the neighbourhood of Keighley, in Yorkshire, on the borders of Lancashire, the Bolton Greys are called "Chittiprats," or "Cheteprats." Prizes are given for

of Pombal, as court agent and merchant. During the late wars my grandfather received what were called 'assimilated papers,' licenses of the French and other belligerent powers, for any vessel, from any country whatever, to introduce, unmolested, certain articles—for instance, sugars, into France, where they had none. This was done only through the ports of Heligoland and Hamburgh, I believe. I need not say these papers fetched a high price. Vessels coming from Spain and Portugal took grapes as well as sugars, which were afterwards shipped from thence to London, and I think the grapes acquired the name of Hamburgh grapes. Had that name of fowls a like origin?"—*E. D. Santos.*

the best by the Keighley Agricultural Society, and the opinion of them current there, is, that they are very handsome, very hardy, and excellent layers. In other parts of the kingdom they are known by the trivial name of "Narrowers."

Prince Albert's breed, so named by Mr. Smith, formerly of the Hippodrome, near London, are Bolton Greys, that are said to be crossed with a dash of Game blood, to improve their form. They are not to be distinguished from the Silver Spangled Hamburghs.

We take the liberty of extracting another account of them from the Agricultural Gazette for Oct. 14, 1848:

"The Silver (Hamburgh) Fowls are worthy of notice, both on account of their beauty and productiveness; they are small-bodied, have short blue legs, a very pretty head, with a full comb, and a remarkably short bill, rounded, and shaped somewhat like a sparrow's; their colour white, with very regular black dots or moons on their wings and tail. They lay well; mine commenced early in February, and are laying now (Oct. 3); they do not show any inclination to sit, but in a hatch their eggs are very productive. I have had 14 chicks out of 15 eggs. It is necessary to keep a Game Hen or two, to perpetuate the breed (by hatching the eggs, which they will not often do for themselves.) I find rice at 12*s.* to 14*s.* per cwt., soaked all night in water, and then rolled in Indian meal, a very economical and fattening food, occasionally mixed with a little barley. My Hens would have commenced laying earlier in the season, if their roosting-place had been warmer."—*W. X.*

Aldrovandi's account of his Turkish Fowls is as follows:—"*On the Turkish Cock, and two Turkish Hens.* The Cock whose likeness we now give, is called the Turkish Cock. His whole body was, in a manner, inclined to white. Still the wing feathers were partly black, the belly also was black;* the tail consisted of feathers

* "Had I been aware that your mind was not quite made up as to the identity of the Bolton Greys with the Silver Hamburghs, I would

that were partly green, partly black, some also half-green, some half-black. His whole body was exquisitely adorned with lines that were sometimes golden and sometimes silver, and it is wonderful what a beautiful effect this produced. His legs and feet were tinged with blue. The Hen, which in like manner is called Turkish, was all white, sprinkled over with black spots; the feet tinged with blue: the wattles were short, when compared with those of the male. The next hen would seem the same, except that her neck was yellowish, and she had a sharp point on the top of her head, her feet altogether blue, and an immaculate tail.

"I have observed another hen of this kind, whose feet were entirely blue, spotted in the same manner as the foregoing, with black and white, but behind its fleshy crest it had another of white feathers like a Lark, and that part of the neck and shoulders which in the other is black, in this changing from ash colour to dirty yellow."

It is a pity the description is not more precise. It is not clear whether the gold and silver lines are intended to be in the same or different birds. The reader may question the correctness of my translation; but Aldrovandi's large wood-cuts remove all doubt as to the variety intended. The figures given are evidently the Hamburghs, the Hens, one Golden, and one Silver. The very peculiar form of the comb, so recognisable at the present time, is clearly marked in these old wood-cuts. The fleshy rose comb of the Hamburghs terminating in a sharp point behind, like the corner of a cocked hat turning upwards, and which is seen in no other variety of Fowl, is well described by "apicem in vertice gerit." The smaller and occasionally more semi-circular comb of the silver Hamburgh Hens is well delineated in the Turkish Hen.

Bolton Bay is another provincial term for the Golden Hamburgh, as Bolton Grey is for the silver. In order

have written to Mr. M. to look out for a white-breasted cock, but I begged him to send you a black-breasted one, if possible."—*J. S. W.*

clearly to fix the nomenclature, by the comparison of individual specimens of different localities, I purchased, in Hungerford Market, some birds that had been imported from Holland, another specimen of Herring in the New Road, and lately have been kindly supplied with a pair of Bays, and also of Greys, from Bolton, in Lancashire, and also with a Creole Hen from Wiltshire. The result of the comparison, and of the unanimous opinion of the London Poulterers, is, that the varieties of Hamburgh, two Golden and two Silver, include all these synonyms. The Bolton Bay from Lancashire differed most in her markings from the normal type, which we will suppose represented by Aldrovandi's Turkish Hen: but all the main points were correct, and for this difference I had been prepared. "When you receive your Boltons be sure that you do not draw any conclusions from their *colour alone*, for that is extremely varied. Many are quite as handsomely marked as the Spangled Poland, or the Pheasant-Malay." The Bay Hen I received was marked very like a Golden Poland, (the crest, of course, being quite absent,) but that the ground of the plumage was of much richer and browner hue. Those persons, therefore, who wish to procure Hamburgh Fowls from Lancashire, should be precise in their instructions, according to the description shortly to be given. The Bolton Fowls average in that town 3*s*. each, which is cheap for those who wish to obtain a stock of any of these very distinct varieties. All the birds that I received were very good specimens. The male Golden Hamburgh is a particularly beautiful creature; nothing but a full-sized coloured drawing can give an adequate idea of the extremely rich colouring and brilliant lustre of his plumage. It has been mentioned in the previous note that the males of the Bolton Greys differ somewhat in the quantity of black or dark grey which they wear, as also do those of the Silver Spangled: the Hens, too, vary slightly, but the difference is hardly more than would be seen amongst a brood of chickens reared from the same pair of Fowls.

The Creole from the south of England was a very well-bred specimen, having the peculiar comb, pointed behind, described and figured by Aldrovandi.

A Golden Spangled Hamburgh Cock, from Lancashire, of the sub-variety there called "Moss Fowl," has a large very double comb pointed behind upwards, flat on the top, but covered with small upright points; the wattles are large, and there is a small white ear-patch. The bill is short and lead-coloured; feet and legs also lead-coloured. Irides orange-brown. The hackle is composed of a mixture of brown, black, yellow, and green; back the same, only darker. Tail, black, glossed with green, and having grey down at the base of the feathers. Quills of the wings, chesnut; wing coverts, metallic black; breast and under part of the body, black.

The Hamburghs are commonly set down as everlasting layers. But no strictly universal rule, that will apply without fail to every case, can be laid down for Fowls any more than for men. Here, however, is decided evidence. "I have sufficient experience of the Bolton Fowls myself to enable me to say that they are everlasting layers when pure bred. My father had some very handsome Fowls, a cross between them and a large Poland Hen that was slightly inclined to sit. I can recommend this cross to the notice of those who wish for a larger breed than the Bolton. By retaining those with the largest top-knots, a variety with large top-knots could soon be obtained. (Yes, but could it be *re*tained?) Some of the Bolton Grey Cocks have black tails and breasts, and others have the breasts mottled black and white: when these also have cream-coloured hackles, I think them very handsome. As to the occasional variation in the comb, I incline to the opinion that Hens more frequently come single-combed than Cocks, in breeds like the Hamburgh and the Malay."—*J. S. W.*

The Hamburgh Fowls are, beyond all other breeds, especial favourites in the Midland and Northern Counties; they are zealously cultivated there in all their sub-varieties,

and a visit to the great Birmingham show having afforded a good opportunity of comparing their markings and nomenclature, a sort of family tree of the breed is given for the guidance of distant fanciers. We comprise the whole race under the denomination of

HAMBURGHS.

PENCILLED FOWLS, WITH LIGHT HACKLE, *that is,*			SPANGLED FOWLS, WITH DARKER HACKLE, *that is,*		
Either pure White hackle,	} or {	Clear unmixed Ochrey Yellow.	Either White hackle, striped in the centre with Black,	} or {	Yellow hackle, striped in the centre with Black, Brown, or Green.
Chittaprat.		Bolton Bays.	Silver Spangled.		Gold Spangled.
Bolton Greys.		Golden Hamburgh.	,, Pheasant.		,, Pheasant.
Pencilled Dutch.			,, Mooneys.		,, Mooneys.
SilverHamburgh.			,, Moss.		Red Caps.
Creole, or Coral			N.B. The *Adult* Cocks have in some families pure white hackle.		Copper Moss.

The terms "Silver and Gold Pheasant" are admitted into this list, simply to point out what they are *not:* the sooner they are discarded the better. Mr. James Bissell, of Bradford Street, Birmingham, an enthusiastic and able amateur, thus gives his opinion:

"I like very much your forming the Moonies, Moss-Fowl, Chittaprats and Bolton Bays into one family of Hamburghs, and think you will, with a careful specification of the sub-varieties, for ever set this point in dispute at rest. I can see no objection (except old associations) why the term 'Pheasant' should not at once be abandoned in both the Silver and Golden varieties; it has doubtless given rise to much that is equivocal and often false; [We have had Fowls sent us from long distances to convince us of the amalgamation of Phasianic with Gallic blood, when lo! the specimens, on jumping out of their hamper, were very handsome "Moss Fowls."] but the Fowl known in this neighbourhood and in the

Northern Counties under that term, of both colours, Silver and Golden, I believe to be as permanent as any variety we have, and their qualifications equal if not superior to any Fowl I have ever met with; therefore I am anxious that they should be as accurately described as the Bolton Bays and Bolton Greys, for I can assure you that in the Midland Counties and northwards they have been, and still are, more extensively kept and more highly prized than all the other varieties of fancy Fowl put together; and almost universally has there been the inquiry why they have not found a place in the classification of Domestic Poultry by the various writers upon the subject.

"You appear to have thought that the name of *Moonies* was attached to the *Silver non*-Pheasants only, and that of *Moss* to the *Golden non*-Pheasants only, whereas both these names are applied to either variety; as, for example, the same birds are called Silver Moss and Silver Moonies, and if the colour be golden, they are called Copper Moss and Golden Moonies, the terms Moss and Moonies being synonymous, and as applicable to the Silver as the Golden-spangled variety. There can be but one opinion as to dividing them into the two distinct varieties of colour, viz., Golden Hamburghs and Silver Hamburghs, and we shall find the characteristics of the Hamburgh breeds, whereby we distinguish them from all other varieties, as uniform and true of the one colour as the other, and will always be distinct and apparent in the sub-varieties.

All Hamburghs must possess a very neat, florid rose or double comb, not too large and bulky, which terminates in a fine upward-tending point at the back of the head, which gives an exquisite finish to their appearance, pure white deaf-ears or ear-lobes, and light slaty-coloured blue legs. Without the whole of the above characteristics, I should deem them impure, and not worth breeding from; and I consider these three qualities indispensable in the genuine Hamburgh Fowl. I think we should avoid splitting them into too many sub-varieties, and beg to submit this simple mode of doing so under each variety

of colour. Two sub-varieties of this Fowl will be clearly identified under the definitions of *Pencilled* and *Spangled* Hamburghs, and will embrace all the specimens I have yet seen or heard of; thus, in the Chittaprats and Bolton Bays we have the Pencilled Hamburghs, in the Moss and Moonies we have the Spangled Hamburghs. The marking and *characteristics of each sort* I will now describe.

Silver Pencilled Hamburghs are about the size of ordinary Game Fowl, and, when quite pure, are (with the other varieties of Hamburgh Fowl) the most prolific layers we have. Their ground colour is pure white; the Cock has very little black upon him at all; the whole of the neck and saddle hackles, breast, and back purely white, and not (as in some specimens that have been shown as genuine birds) marked or pencilled upon the breast. This defect will always produce imperfect birds. The only parts that should have any black upon them are the wings and tail; the former should be barred across with black, and the latter should be black, with the feathers edged with white, gradually blended into the black. The Hen should have a pure white neck; and spots of black upon the hackles very much detract from the purity and beauty of the Fowl, and should therefore be strictly guarded against and rejected. The whole of the body, wings, and tail should be delicately but distinctly pencilled with clear black upon a clear white ground; and there are in general about five such distinct pencillings or bars across each feather upon the body, the extremes being marked the most distinctly. The flight feathers of the wings, and the tail feathers should be barred all the way up them.

Golden Pencilled Hamburghs are in all respects, except the ground colour, the same as the Silver Pencilled Hamburgh. It is a qualification that we should be very tenacious about, that the Pencilled Hamburgh Cock, either Golden or Silver, should not have any marking of black upon him, except upon his wings; for if he has, we shall be disappointed in his progeny, as he will inevitably produce spurious birds.

Silver Spangled Hamburghs.—These in their general form and carriage very closely resemble the Silver Pencilled, of which they are a sub-variety, their size being in general a little larger. The ground colour of the Cock is clear white, beautifully spangled with one spot or spangle of clear black upon each feather, which is more distinct and beautiful upon the breast than upon any other part of him. The hackles of the neck and saddle are striped down the centre with black, and clearly marginated with white, the tail feathers mottled with black and white, the black preponderating; the comb double, and pointing upwards at the back of the head, but not too large and ponderous; ear-lobes quite white, and the legs of a quiet light blue colour.

The Hen of this beautiful variety is one of the most splendid and attractive-looking birds of her species, being regularly spotted or spangled with one spot or spangle only of clear black upon each clear white feather all over her body, from her head to the end or tip of her tail; and here I would observe that the distinctive marks of difference between the Silver Spangled and Silver Pencilled Hamburgh Hens are these (they also apply to the Golden variety): the hackles of the Silver Pencilled Hamburghs are purely white, while the hackles of the Silver Spangled Hamburghs are regularly and distinctly marked with black; the other distinction is, that the Pencilled Hamburghs have five or six bars or pencillings across each feather of the body, while the Spangled Hamburghs have only one distinct spot or spangle upon each of their feathers.

"Some of the purest and best bred of the Spangled variety produce Cocks which, when adult, have purely white hackles on the neck and saddle, but which, while chickens in their first feather, have all the feathers of the neck and saddle slightly spangled with black, but their adult hackles come pure white. [We have known chickens of this breed pass through changes of colour much resembling those of young Guinea-fowl.]

"*The Golden Spangled Hamburghs* differ in nothing except the ground colour of the body from the Silver-spangled. While it is expedient to abandon their provincial names, I cannot too strongly urge the necessity of attaching a proper importance to this variety of Domestic Poultry. They are beautiful looking Fowls, excellent layers, and although not so large, are as good a table Fowl, in quality and juiciness of flesh, as the Dorking, and come quite as early to maturity."

The Red Caps in our list are a family of the breed, with their combs somewhat more developed than would be considered as a model in Mr. Bissell's valuable communication. The Silver Pencilled may fairly be called a tender breed; but they will well repay a little extra care and attention, which indeed they may be said absolutely to require. Like the Bantams, they will occasionally produce single-combed chicks; such are considered as aberrant, ill-bred, and to be rejected. Aldrovandi has figured a single-combed Hen as one of his Turkish Fowls.

And here let us pause, though *mal-àpropos* of this breed, to introduce a woodcut of the Birmingham Poultry Medal, for the Cocks and Hens therein represented are by common consent called Polish Fowls. The die is the skilful production of Mr. Thomas Ottley, of Snow-hill, Birmingham, a cunning artificer in gold, silver, and bronze, also in various white and yellow metals, whose real nature is a mystery to most people. For the existence of the medal itself, as well as of the important Exhibition in which it originated, we are

indebted to the self-denying exertions of Mr. T. B. Wright and his able coadjutors. These gentlemen have most efficiently shown that Nature is not repulsed by Art, but heartily welcomed by her; that the works of God are ardently admired by those most proficient in the works of Man; and that the respective Patron Geniuses of Agriculture and Manufactures may, if they choose, meet and shake hands.

THE CUCKOO FOWL.

We here give, by the name by which it is usually designated in the Norfolk farm-yards, a variety which there is good reason to believe to be something old and distinct, though they are generally looked upon as mere barn-door Fowls; *i. e.*, the mere accidental result of promiscuous crossing. But there are several forms among the barn-door Fowls so called, that are seen to be repeated generation after generation, the counterparts of which are to be met with scattered here and there over the country. So constant a repetition of corresponding features would seem to declare, that there are several unnoticed and undistinguished varieties of Fowl, which deserve to be regarded and treated as we do other distinct sorts. The objection to the adoption of this view and mode of practice is, that it would inconveniently multiply the number of species, and give additional trouble to naturalists and poultry fanciers. But the multiplicity of Nature's works always has been infinite, in reference to man's power of understanding them. The only wonder, if we reflect, is, that he has had the courage to grapple with them at all. At any rate, the investigation of a few families of Cocks and Hens, is a less laborious work than the arrangement of a "Systema Naturæ," or the writing of a "Kosmos." The subject is certainly deserving of consideration, and may be the means of affording important service to natural history. Dr. Bechstein seems to have been not far from suspecting that several distinct varieties might be detected amongst the ordinary Fowls of

the farm-yard. It might answer the purpose of the dealer to rear a pure stock of some of the handsomest and most useful of these, and send them forth with appropriate names, determined by competent persons, fixing the appellation of the variety.

The Cuckoo Fowl, it may be supposed, was so called from its barred plumage, resembling the breast of the Cuckoo. The prevailing colour is a slaty blue, undulated and softly shaded with white all over the body, forming bands of various width. The comb is very small; irides, bright orange; feet and legs, light flesh colour. The Hens are of a good size; the Cocks are large, approaching the heaviest breeds in weight. The Chickens, at two or three months old, exhibit the barred plumage even more perfectly than the full-grown birds. The eggs average about two ounces each, are white, and of porcelain smoothness. The newly-hatched Chicks are grey, much resembling those of the Silver Polands, except in the colour of the feet and legs. This breed supplies an unfailing troop of good layers, good sitters, good mothers, and good feeders, and is well worth promotion in the Poultry-yard.

In any closer grouping of the breeds of Poultry, the Cuckoo Fowl might perhaps be safely referred to the Surrey Fowl, and so to the Dorkings. Some of the grey-barred Dorkings are scarcely to be distinguished from them, except by the fifth toe. Still there is something very permanent and remarkable in the peculiar style of plumage, that ought not to be lost sight of. It is with difficulty got rid of by crossing. Half-bred Spanish and Dorking Fowls have quite retained the barred and shaded feathers of the one parent, displaying the comb, ear-lobe, and stature of the other. And this curious and decided plumage is quite confined to one or two breeds, never appearing, that I am aware, in others, such as the Game, the Malays, and Hamburghs; a circumstance which makes us believe it to indicate an ancient descent from some peculiar and original parentage.

THE BLUE DUN FOWL.

For an acquaintance with and a description of this very neat and pleasing variety, I am entirely indebted to the kindness of a valued correspondent, as also for good living specimens of the birds. "The Blue Dun Fowls were first procured by us from Dorsetshire, but I know not from what part. They are under the average size, and rather slenderly made, of a soft and pleasing bluish dun colour, the neck being darker, with high single combs, deeply serrated. The Cock is of the same colour as the Hen, but has in addition some handsome dark stripes in the long feathers of the tail, and sometimes a few golden or even scarlet marks on the wings, which, by their contrast, give the bird a very exotic look. The Blue Duns are exceedingly familiar, impudent, and pugnacious; indeed I strongly suspect this sort to be a variety of, or nearly related to, the Game Fowl, having exactly that shape, and also disposition.

"I have fortunately hit upon a lovely little Hen for you, but the Cock I must apologise for. His colour is unimpeachable, but you must imagine that little crest to be absent, and the comb to be single instead of double. His brother, who fully intended waiting on you in Norfolk, and was exceedingly perfect, was killed by a wire-guard being blown down on him. I would send my grown Cock, but I believe it would cause a mutiny among the labourers, who sometimes give him and his wife the greater part of their dinner, he being impudent enough to take it either from their hands or mouths! They have named him Fred. It is the greatest fun to see a Cock of this

sort keeping up a playful fight with another, rather his superior, spinning and waltzing about him like a French dancing-master. Without more convincing proof, I do not quite approve of their being called Blue Bantams, as although the breed is certainly small, it is still respectable in size, and the eggs are very fair in that respect.

"The Hens are good layers, wanting to sit after laying a moderate number of eggs, and proving attentive and careful rearers of their own Chickens, but rather savage to those of other Hens. The eggs are small and short, tapering slightly at one end, and perfectly white. The Chicks, on just coming from the egg, sometimes have a ridiculous resemblance to the grey and yellow catkin of the willow, being of a soft bluish grey, mixed with a little yellow here and there.

"There is one peculiarity in this breed, which is, that if the variety is kept perfectly unmixed with any other sort, you will seldom obtain more than half the number of the proper Blue Duns, the rest being either black or white. (This would make us strongly suspect that if their history were known, they are themselves but a cross between two distinct varieties or species of Fowls, and that they must themselves eventually disappear, by assimilation to the type of one or other progenitor.) The white Chickens, however, are afterwards sprinkled with dun feathers. Perhaps the original sort may have been either black or white, as we know animals will, after many cross-breedings, 'cry back,' as it is called in some counties, to the origin whence they arose.

"The Blue Duns are nearly equal to game of any sort for eating. The hackles of the Cock are always in great request for making artificial flies for fishing." —*H. H.*

A Cockerel of this breed had the comb large, single, deeply serrated; bill, dark horn-colour, white at the points of both mandibles; ear-lobe, whitish; wattles, large and pendant; iris, orange-brown; neck hackle, yellowish grey; back hackle, the same intermixed with black; legs, light

lead-colour ; live weight, 3lb. 11oz. ; general tint, bluish dun ; claws, greyish white.

The theory that the colour of the Blue Dun results from a combination of white and black (*i. e., very* dark purple or slate-colour) in the progenitors, as betrayed by the habitual " crying back " of the breed, is confirmed by the fact of the speckled black and white, or grey and white, Spanish, producing whole-coloured slaty-grey birds, though of a darker hue than the Blue Duns, in which the permanency of the tint appears to be equally uncertain. It will be worth while to keep some of the aberrant Chickens of the Blue Duns, and record what is the result of their propagation *inter se*.

I am now much inclined to transfer these birds to the Game Fowls, and altogether abolish the " Blue Duns " as a distinct race, but await the consent of abler amateurs in Poultry. There are Blue Dun families belonging to several breeds : we have them in the Spanish, the Polish, the Game and the Hamburghs, and it would be more correct to refer each Blue Dun to its own proper ancestry. It is a nice question, which there is not space to discuss here, how far colour is typical of certain species or subspecies ; in some *parts* of a bird it never varies at all, but in the general plumage it varies considerably, under limitations ; thus I never saw or heard of a *brown* or *golden* Spanish Fowl. Meanwhile, descriptions of one or two other Blue Duns will aid in attaining a clearer view. The first, a decided Game Fowl, cannot differ much from ours. " You say that your Blue Duns are perhaps the result of accidental crossing, whereas they have been known both in Yorkshire and Lancashire for many years, as a pure, unmixed, and distinct variety. They are also the most courageous and impetuous of the Game Fowls, seldom having been known to lose their first battle. Their plumage is, I think, the most beautiful of any of their species. The breast is of a rich dark slate-colour, the feathers having a broad margin of a darker hue, the saddle of a deep blood-colour, and the hackles of the neck

and tail of a dark red, gradually shading to a beautiful golden tint; the tail black and flowing, with a brilliant green shade. The Cock is thus a most gorgeous looking fellow, of a strong muscular frame, without offal; his legs are blue. The Hen is marked in the same manner, all over the back and body, with the hackle of the same golden colour. The Chicks, when first hatched are of a reddish brown, but with no particular distinctive markings: *this* I have only from hearsay, from the man who keeps them for us, and who has been a breeder of the variety for many years."—*F. S. B.*

There is also a Blue Dun which resembles the Hamburghs in every particular except in colour, *and a disposition to sit,* which makes them more useful to the farmer, who must, if he keep but one variety, have Fowls which will rear their own young, which none of the Hamburghs will do. Mr. Bissell says: "These are very fine noble-looking birds, and as useful as they are beautiful; and they have, to my knowledge, permanently bred without at all 'crying back' or running out for some years."

THE LARK-CRESTED FOWL.

HERE again, as with the Cuckoo Fowl, is a breed that has been treated with undeserved disregard. Many London dealers might call them Polanders, and indeed many ill-bred Polands have crests inferior to some of these in size. But the shape of the crest, as well as the proportions of the bird, are different. Aldrovandi perceived the distinction. He calls the one "Our farmyard Hen, known to everybody, entirely white, and crested like a Lark:" the other is his Paduan Fowl. The first, of whatever colour, is of a peculiar taper form, inclining forwards, as Aldrovandi's old-fashioned woodcut well represents, with a moderate, depressed, backward-directed crest, and deficient in the neatness of the legs and feet so conspicuous in the Polands; the latter are of more upright carriage and more squarely built frame. Set the two side by side, and their discrepancy will be apparent. I would distinguish the Lark-crested from the Polish Fowls, by the former having an occipital crest, the latter more of a frontal one. Mr. Selby's volume on Pigeons in the Naturalist's Library, gives a figure and description of the *Columba dilopha* or Double-crested Pigeon, which has both these forms of top-knots united on its head.

Lark-crested Fowls are of various colours; pure snow-white, brown with yellow hackle, and black. How far these sorts required to be subdivided, has not yet been investigated. The first of these are perhaps of a more brilliant white than is seen in any other domesticated

gallinaceous bird. The colour is much more dazzling than that of the White Guinea-fowl, or the White Pea-fowl. This white variety is in great esteem with many farmers' wives, who will keep it, to the entire exclusion of any other sort. They certainly have a remarkably neat and lively appearance when rambling about a homestead. They look very clean and attractive when dressed for market: an old bird, cleverly trussed, will be apparently as delicate and transparent in the skin and flesh as an ordinary chicken. The feathers are also more saleable than those from darker coloured Fowls. My own experience leads to the suspicion that if they are a little more tender than other kinds raised near the barn door, it is only a little; and I must think them to be in every way preferable to the White Dorkings. In the Cocks a single upright comb sometimes almost entirely takes the place of the crest. The Hens too vary in their degree of crestedness, some not having above half a dozen feathers in their head-dress. If they were not of average merit as to their laying and sitting qualifications, they would not retain the favour they do with the thrifty housewives by whom they are chiefly cultivated.

These neglected varieties are well known to the itinerant Fowl-dealers, who traverse the country in search of chickens to be fatted for market. From them they may easily be obtained at a reasonable price. The best way would be to order a random lot of a score or two, select the best for stock, and consume those which remain. These people value Fowls entirely according to their age, size, and weight. Almost the only exception is, that they will now and then give a trifle more for a handsome, showy, adult Cock bird, particularly if he exhibit marks of Game blood. But the most amusing speculation is to purchase eggs in country towns, from the wives of those small farmers who bring their own produce to market, and take the chance of whatever may be hatched from them. By keeping ten or a dozen sitting Hens, and obtaining eggs from different localities, a sufficient number

of various chickens may be obtained in one season to afford the breeder a good opportunity of exercising his discriminating judgment. A very little experience will soon point out which are mere half-breds of well-known sorts, and which show symptoms of belonging to a distinct race, and that long before they have attained their full growth, sometimes as soon as they have issued from the shell. In a harmless lottery like this some prizes are sure to turn up, the only blanks being addled eggs.

THE POLAND OR POLISH FOWL.

"When Peter Flamingo (feather-seller to the Court of Great Britain) read or heard of the possible perfectibility of man, I am certain that man appeared to him like a Poland Cock, with a natural crest of feathers."—*Douglas Jerrold's Story of a Feather*, p. 16.

CERTAIN Fowls with top-knots are called by the above names, sometimes also Polanders. The Lark-crested Fowls are distinct from these. Whence the title was derived, I have endeavoured in vain to trace. Those who doubt the likelihood of any new breed of Poultry coming to us from Poland, are inclined to think the word a corruption of some term derived from the poll or head; the word "polled," which we now apply to cattle *without* horns, would be more suitable to Fowls with top-knots. Or, it might possibly be given in allusion to the *plica polonica*, or Polish disease, in which the hair in the human subject grows into an immense matted mass.

Whether the climate of Northern Europe have any tendency to develop the growth of crests, "muffs," (as in what are called Siberian Fowl, *i.e.* muffed Dorking,) &c., on the heads of Fowls, in a similar way in which that of Angora is said to soften and lengthen the hair of various animals, from the fur of cats and goats, to the hair and beard of men, is a speculation which we have no present means of pursuing.

There is no evidence that any breed of Fowls with top-knots was known to the ancients; but we first meet with them in the middle ages. Aldrovandi, quoted by Willughby, "in his Ornithology gives us many kinds, *or*

rather rarities, of Hens, 1. A common Hen, but white *and copped.*" This is the Lark-crested Barn-door Fowl. But Aldrovandi also gives two large spirited figures, each occupying the whole of his folio page, which he calls Padua Fowls, but in which we recognise what would now be called Polands.

This is his description :—

" There exist Cocks for the most part larger than our own, which the common people call Paduan, even as such Hens are larger than our own Hens. We exhibit the likeness of the male and female. The male was most beautiful to behold, highly decorated with five colours, namely, black, white, green, red and ochre. For the whole body was black. The neck was covered with very white feathers. But the wings and the back consisted partly of black, and partly of green. The tail likewise was of the same colour, but the roots of the feathers were whitish.* Some of the quill feathers (?) ['remigibus'] were white above. Its head was adorned with a very handsome crest; but the roots of the crest were white. A red spot encircled the eyes. The comb was very small; the bill and feet yellowish. But in the whole Hen there was not the least white, except that white skin which is usual about the openings of the ears, but she was altogether black, shining with green. The feet were light yellow; the comb very small, and scarcely of a red colour."

A difficulty about such varieties recorded so long ago is the doubt whether the Cock and Hen were really of the same breed.

The Paduan Fowl has been continually mentioned as something distinct and primitive, by those who have quoted Aldrovandi at second hand; but we will for the present, discard the term, and sweep the birds into the class of Polands. Whether the Polish Fowls were really first brought to us from Poland, I cannot yet trace; but

* An abundance of white down at the root of the tail-feathers is a great ornament in the Black Polish and Game Cocks, and a mark of breeding.

the fact is quite possible. Fowls brought alive from India to Europe by the overland journey, would suffer less than such as were sent by sea round the Cape of Good Hope. At the end of each day's journey they could be let loose immediately that the spot for the night-bivouac was fixed upon; they would soon learn to return at dusk to their travelling Hen-house, and would be well refreshed against the next day's fatigue. Nor indeed, is there any reason why Fowls should not permanently accompany wandering and unsettled tribes of men, who usually have other live stock constantly in their train, as well as their wives and children. Mr. J. H. Drummond Hay found that the tent-occupying Arabs of Western Barbary kept Fowls:—"Every family," he says, "has its brood of chickens, and these have their roosting quarters in a distant nook or compartment of the tent." In Russia, the finest teas are received overland from the East; nor is it improbable that a few Fowls may have been carried as far as the neighbouring country of Poland, after having accompanied some wealthy merchant, as live stock to be eaten by the way in case of sickness, or short commons. But whether correct or not, it would be difficult now to alter their nomenclature. One of the Polish Fowls is supposed by some writers to be descended from the wild Cock of St. Jago. The assumed existence of such a bird is founded on an error; but if the Cocks of St. Jago are anything akin to the goats which Captain Cook found there, "of the antelope kind, so extraordinarily lean, that hardly anything can equal them," the cross would be no great improvement. But I take it, that no existing wild *Gallus* has any more to do with the formation of our present breeds, than we have shown that the Pheasant has. Mowbray says, "Perhaps the genuine sort (of Polish) has always five claws;" and he proceeds to derive "our famous Dorking breed" *from* them, with the reservation, however, that such a speculation may be groundless, which it decidedly is. For the fifth toe vanishes from the Dorkings at a very early stage of crossing with any other breed.

THE BLACK POLISH FOWLS are of a uniform black, both Cock and Hen, glossed with metallic green. The head is ornamented with a handsome crest of white feathers springing from a fleshy protuberance, and fronted more or less deeply with black. The comb is merely two or three spikes, and the wattles are rather small. Both male and female are the same in colour, except that the Cock has frequently narrow stripes of white in the waving feathers of the tail; a sign, it is said, of true breeding. The Hens also have two or three feathers on each side of the tail, tinged in the tip with white. The Hens do not lay quite so early in the spring as some varieties, especially after a hard winter; but they are exceedingly good layers, continuing a long time without wanting to sit, and laying rather large, very white, sub-ovate eggs. They will, however, sit at length, and prove of very diverse dispositions; some being excellent sitters and nurses, others heedless and spiteful. The chicks, when first hatched, are dull black, with white breasts, and white down on the front of the head. They do not always grow and get out of harm's way so quickly as some other sorts, but are not particularly tender. In rearing a brood of these Fowls, one may observe some of the Hens with crests round and symmetrical as a ball, and others in which the feathers turn all ways, and fall loosely over the eyes; and in the Cocks, also, some have the crest falling gracefully over the back of the head, and others have the feathers turning about and standing on end; these are to be rejected, the chief beauty of the sort depending on such little particulars. One Hen laid just a hundred eggs, many of them on consecutive days, before wanting to incubate; after rearing a brood successfully, she laid twenty-five eggs before moulting in autumn.

THE BLACK-TOPPED WHITE POLISH is now, it seems, lost to this country, if, indeed, there is any evidence of its having ever existed here. Buffon mentions them as if extant in France in his time. These and the Shack-

bags are probably recoverable only by importation from Asia. I am given to understand, that an attempt will be made to reproduce them here by breeding. The experiment will be interesting either in its success or failure.

The Golden Polands are sometimes called Gold-spangled, their plumage approaching to that of the Gold-spangled Hamburghs; but many of the finest specimens have the feathers merely fringed with a darker colour, and the Cocks, much more frequently than the Hens, exhibit a spotted or spangled appearance. Many of them are disfigured by a muff or beard; but no such birds should be allowed the *entrée* of the poultry-yard, but dispatched at once to the fatting-coop.

It is a question with the curious whether the muff at the throat, is, or is not, an original appendage to these birds. The earliest figures with which I am acquainted (Aldrovandi's) increase the difficulty by displaying a pair of Fowls, one with, and one without the muff. Albin (1736) figures a Cock "of a peculiar Breed, which is brought from *Hamburgh* by our Merchants," with a short top-knot, a decided beard, and actual *whiskers*, "a tuft of black feathers, which covered his ear." The Irish fanciers decide, that, in the same clutch of chickens, the produce of the same parents, those which have beards in addition to their top-knots are to be called Hamburghs, those with top-knots only, Polish. Others say, that the beard comes from a cross with the Russian Fowl, which, as near as we can ascertain, is a bearded Dorking. A distinct race, of which the muff is one permanent characteristic, is not at present known. It is a frightful appendage, and not easily got rid of if once introduced to a poultry-yard: which makes me suspect either that the original Polish were beardless, or that there were two ancient races.

The Golden Polands, when well-bred, are exceedingly handsome; the Cock having golden hackles, and gold and brown feathers on the back; breast and wings richly spotted with ochre and dark brown; tail darker; large

golden and brown crest, falling back over the neck; but little comb and wattles. The Hen is richly laced with dark brown or black on an ochre ground; dark spotted crest; legs light blue, very cleanly made, and displaying a small web between the toes, almost as proportionally large as that in some of the waders. They are good layers, and produce fair-sized eggs. Many of them make excellent mothers, although you cannot always get them to sit early in the season. The chicks are rather clumsy looking little animals, of a dingy brown, with some dashes of ochre about the head, breast, and wings. They are sometimes a little apt to die in the first week of their existence, but afterwards get tolerably hardy, although liable to make a stand-still when about half-grown.

It has been observed as a peculiarity in the temper of this breed, that if you catch one of them, or if one is attacked by any animal, the rest, whether Cocks or Hens, will instantly attack the aggressor with fury, and endeavour to rescue their unfortunate companion.

The Silver Polands are similar to the preceding in shape and markings, except that white, black, and grey, are exchanged for ochre or yellow, and various shades of brown. They are even more delicate in their constitution, more liable to remain "fixed" at a certain point of their adolescence, and still more require and will repay extra care and accommodation. Their top-knots are not perhaps in general so large; but they retain the same neat bluish legs and slightly webbed feet. It is curious that a bird which is quite incapable of swimming should have webs on its feet, while the Gallinule, which swims and dives well, has none. The Hens of the Silver Polands are much more ornamental than the Cocks; though even they are sure to attract notice. They may certainly be ranked among the choicest of Fowls, whether we consider their beauty or their rarity. They lay moderate-sized, French-white eggs, much pointed at one end, in tolerable abundance, and when they sit, acquit themselves respectably.

The new-hatched chicks ar very pretty; grey with black eyes, light lead-coloured legs, and a swelling of down on the crown of the head, indicative of the future top-knot, which is exactly the colour of a powdered wig, and indeed gives the chick the appearance of wearing one. They are easily enough reared for the first six weeks or two months, the critical time with them being the interval between that age and their reaching their fifth or sixth month. At a very early age they acquire their peculiar distinctive features, and are then the most elegant little miniature Fowls it is possible to imagine. The distinction of sex is not very manifest till they are nearly full grown, the first observable indication being in the tail. That of the Pullet is carried uprightly, as it ought to be, but in the Cockerel it remains depressed, awaiting the growth of the sickle feathers. The top-knot in the Cockerels is more pendent backwards than in the Pullets. It is remarkable that the Golden Polish Cock brings as true Silver Chicks, and those stronger, with the Silver Polish Hen, as the Silver Polish Cock would.

The Silver Polands have all the habits of their Golden companions; the main difference being the silvery ground instead of the golden. The Silver variety will sometimes even make its appearance if you breed merely the Golden sort, exactly as the Black Polish produce now and then some pure white chicks that make very elegant birds. An attempt has been made to obtain the black top-knotted White Polish from these, by acting on the imagination of the parents. The experiment failed, though similar schemes have been said to succeed with animals; it proved, however, one thing—namely, that it will not do to breed from the White Polish as a separate breed. Being Albinos, the chicks come very weakly, and few survive. On the other hand, trust to chance for an occasional white one among the black, and you get a fine bird.

There is a singular variety of the Polish which has the entire plumage of a uniform slaty dun colour. Other curious combinations of colour are probably to be found

here and there in the hands of careful breeders. One has been lately raised, in which the golden plumage has been crowned by a large globe-shaped white crest of dense features: how long this will continue permanent, remains to be tested. There was also a breed called after Lord Erdley which obtained a prize at one of the Poultry-shows in the Zoological Gardens.

The Polish are chiefly suited for keeping in a small way, and in a clean and grassy place. They are certainly not so fit for the yard of the farmer, becoming blinded and miserable with dirt. It is a main point to procure them genuine, as the degenerate things one sees in towns are frequently palmed on the buyer instead of the handsome, deep-bodied, short-legged variety. I have seen a slight sub-variety having the crest *entirely* white, but inferior in shape and beauty. Indeed there is no breed of Fowls more disfigured by mongrelism than this. The Polish will, without any cross-breeding, occasionally produce white stock that are very pretty, and equally good for laying, &c. It is singular, however, that if you attempt to make a separate breed of them, they become puny and weak. It is better for those who wish for them to depend upon chance: every brood almost of the black producing one white chick strong and lively as the rest.

The Polish Fowls are excellent for the table, the flesh being white, tender, and juicy; but they are quite unsuitable for being reared in any numbers, or for general purposes: they are so capricious in their growth, frequently remaining "stuck," as the country people call it, for a whole month, without getting bigger, and this when about a quarter or half grown, the time of their life when they are most liable to disease. As aviary birds they are unrivalled among Fowls. Their plumage often requires a close inspection to appreciate its elaborate beauty; and the confinement and petting seems less uncongenial to their health. We would recommend persons whose accommodation for Poultry is very limited, to select some pretty family of Polanders, and keep them on

the Aviary system; when it will be found that their plumage improves in beauty with almost every moult.

But a great merit of all the Polish Fowls is this: that for three or four years they go on growing and gaining in size, hardiness, and beauty, especially the male birds. This fact, which any amateur can verify for himself by observation, assuredly points out a very wide deviation in constitution from those Fowls which attain their full stature and perfect plumage in twelve or fifteen months. The similarity of colouring in the two sexes, almost a specific distinction of Polish and perhaps Spanish Fowls, also separates them from those breeds, as the Game, in which the Cocks and Hens are remarkably dissimilar. An additional recommendation to the Polish is, that their edible qualities are as super-excellent compared with other Fowls, as their outward apparel is superior in elegance,—a point which is recorded here not from mere hearsay; although, to confirm it, Temminck quotes Sonnini's information that the Polish Fowls (les Coqs huppés) are highly esteemed in Egypt for the goodness of their flesh; and are so abundant in Upper Egypt as to be sold for 2½*d.* or 3*d.* each. At the Cape of Good Hope this breed is equally cultivated.

Polish Fowls are also currently reported as everlasting layers, which further fits them for keeping in small inclosures; but, as in the Hamburghs, individual exceptions are often met with, however truly the habit may be ascribed to the race. "I only know of the Golden-spangled, Silver-spangled, and Black Poland that are everlasting layers, though of the Black, I believe there are two varieties, one smaller than the other. The small ones are of a purer black, with larger top-knots, and I think I have heard they are truer everlasting layers than the large variety. Some of the large ones have slight white tips to a few of their feathers. I am altogether unable to point out any difference between the Polanders that are everlasting layers, and those that are not; for I have seen several that apparently were pure

bred that were as much inclined to sit as any other Fowls."—*J. S. W.*

Both the Poland and the Lark-Crested Fowls are, in Norfolk, trivially called "Copplecrowns."*

Before taking leave of the full-sized Fowls, it may be observed that the initiated can often distinguish the various breeds unseen, by their crow. A friend remarks, "there is an Italian proverb: 'as the old Cock crows, so crows the young,' and indeed,' the voice may be considered as a tolerably fair guide for ascertaining whether the different breeds of domestic Fowl are genuine or not. Amongst individual Cocks of the same variety, there will indeed, be frequently slight variations in the tone of crowing; but yet, a person having anything of a correct ear, may easily trace the *family crow* throughout. Thus, the game breeds that I have kept, have always rather a shrill, but not inharmonious crow, with a very peculiar, abrupt termination. The Blue Duns have somewhat the same style of crowing, but with a more regular and gradual finale. Cocks of the Silver Hamburgh variety are generally even more shrill than the two last mentioned, giving, however, a longer finishing note. The Polish are not, I think, remarkable for melody in crowing; they are harsh-toned, and frequently lack that agreeably sounding turn in the crow, that you hear in the Game and Hamburgh, and others. The Spanish, also, though professing to come from a land rich in musical ability, are not highly gifted with vocal powers. Their crowing is loud, indeed, and

* In the "Turnament of Tottenham, or, the Wooing, Winning, and Wedding of Tibbe, the Reeve's daughter there," an old burlesque ballad, the Reeve says—

"Whoso berys hym best in the turnament,
Hym schal be granted the gre be the comon assent,
For to wynne my dozter wyth dughtynessé of dent,
And 'coppell' my brode-henne that was brozt out of Kent:
And my dunnyd kowe
For no spens wyl I spare,
For no cattell wyl I care,
He schall have my gray mare,
And my spottyd sowe."

not so very shrill, but squally and grating to the ear. Some few individuals are better and richer in tone, but those are the exceptions, not the rule. The Malay's voice is hoarse, and not so loud as, from the size of the bird, might be expected; while that of the noble Cochin-China is deep-toned, mellow, and prolonged, like the closing note of an accomplished singer. Bantams are more varied in their crowing powers than any of the breeds above-mentioned, but one I possessed some years since was so particularly musical, that his crow sounded like two or three bars of an air whistled in a mellow key. It has, I believe, been universally remarked, that the Domestic Cock always claps the wings *before*, and the Pheasant *after* crowing. The Cock, however, as I have often noticed, will frequently give another clapping *after* the song is ended. These birds must sleep very lightly and watchfully, as, the instant an individual, roosting separately and at a distance, begins his clamour, the others answer, and the concert spreads from farm to farm, throughout the village. To hear this natural alarum-bell ringing far and wide between ten and twelve o'clock on a December's night is singular enough. The cause of these birds thus forestalling their morning note of gratulation has not yet, I think, been satisfactorily explained.

"The growth of the spur in the gallinaceous order of birds is often irregular and unaccountable. Among Fowls especially, it is a very misleading guide to denote the age. You may see an old Hen, eight or twelve years of age without the slightest semblance of a spur; and again, in a last year's Hen you may observe them of some length, and even in a Pullet of the same season (as in the case of one of the Game Pullets you sent me,) the spur is highly developed. The same remarks will apply, though in a less degree, to Cocks also. Many are the persons who have been thus woefully deceived when purchasing Pheasants for the table; as they afterwards find to their annoyance, when the bird is undergoing the process of mastication."—*H. H.*

BANTAM FOWLS.

Hermia. Now I perceive that she hath made compare
Between our statures, she hath urged her height;
And with her personage, her tall personage,
Her height, forsooth, she hath prevailed with him,—
And are you grown so high in his esteem,
Because I am so dwarfish, and so low?
How low am I, thou painted maypole? speak;
How low am I? I am not yet so low,
But that my nails can reach unto thine eyes.
Helena. O, when she 's angry, she is keen and shrewd:
She was a vixen, when she went to school;
And, though she be but little, she is fierce.
Hermia. Little again? nothing but low and little?—
Why will you suffer her to flout me thus?
Let me come to her.

Midsummer Night's Dream. Act III.

We are now timorously approaching the most treasured pets of the Fancy. We have advanced with a tolerably steady footstep through the flocks of well-sized creatures that crowded beside our path—the Turkeys, the Peacocks, the Geese, and the Swans,—and should not have feared to encounter even an Emeu or a Cereopsis, had chance planted one in the way; but a sudden fear and trembling creeps over us as we draw near to these mysterious elves and pigmies of the feathered world. Gulliver got on very well in Brobdingnag, so long as he did not attempt any leap beyond his strength; but the minute Lilliputians teased him sadly by their numbers, their activity, and the unseen and unsuspected places from whence they issued. But twenty or thirty years back

Bantams would have supplied a more formidable muster-roll than they now do.

Bantam is the name of a town and kingdom in the island of Java, famous for its trade in pepper, of which the Dutch despoiled us, and for its unrelenting punishment of thieves. "The Laws of this country" (Achin, the north-western part of Sumatra, famous for the juicy and refreshing fruit called the Pumple-nose, and the seductive and intoxicating herb *Ganga* or *Bang*) "are very strict, and offenders are punished with great severity. Neither are there any delays of justice here; for as soon as the Offender is taken, he is immediately brought before the Magistrate, who presently hears the matter, and according as he finds it, so he either acquits, or orders punishment to be inflicted on the Party immediately. Small Offenders are only whipt on the back, which sort of punishment they call *Chaubuck*. A Thief for his first offence, has his right hand chopt off at the Wrist: for the second offence off goes the other; and sometimes instead of one of their hands, one or both of their feet are cut off; and sometimes (tho' very rarely) both hands and feet. If after the loss of one or both hands and feet, they still prove incorrigible, for they are many of them such very Rogues and so arch, that they will steal with their Toes, then they are banish'd to *Pulo Way*, during their Lives.

"On *Pulo Way* there are none but this sort of Cattle: and though they all of them want one or both hands, yet they so order matters, that they can row very well, and do many things to admiration, whereby they are able to get a livelihood; for if they have no hands, they will get somebody or other to fasten Ropes or Withes about their oars, so as to leave Loops wherein they may put the stumps of their Arms; and therewith they will pull an oar lustily. They that have one hand can do well enough; and of these you shall see a great many, even in the City.

"Neither is this sort of punishment peculiar to the *Achinese* Government, but probably, used by the other

Princes of this Island, and on the Island *Java* also, especially at *Bantam*. They formerly, when the King of *Bantam* was in his prosperity, depriv'd men of the right hand for a Theft, and may still for ought I know. I knew a *Dutch*-man so serv'd : he was a Seaman belonging to one of the king of *Bantam's* Ships."—*Dampier's Voyages*, vol. ii. p. 138.

The same king (an. 1688) expected to receive from his subjects a very unusual mark of respect. " The Queen of *Achin*, as 'tis said, is always an old Maid, chosen out of the Royal Family. What ceremonies are used at the chusing her I know not : Nor who are the Electors ; but I suppose they are the *Oronkeys* (Great Lords). After she is chosen, she is in a manner confin'd to her Palace ; for by report, she seldom goes abroad, neither is she seen by any People of inferiour rank and quality ; but only by some of her Domesticks : except that once a Year she is drest all in white, and placed on an Elephant, and so Rides to the River in state to wash herself : but whether any of the meaner sort of People may see her in that progress I know not : for it is the custom of most Eastern Princes to skreen themselves from the sight of their Subjects : Or if they sometimes go abroad for their pleasure, yet the People are then ordered either to turn their backs towards them while they pass by, as formerly at *Bantam*, or to hold their hands before their eyes, as at *Siam*."—*Idem*. p. 142.

Our little friends the Bantams clearly show where they come from. Their passionate temper arises from the superabundance of pepper, their diminutive stature from the Javanese practice of foreshortening, their turgid comb from the succulent Pumple-noses, their overweening assumption and arrogance from the excitement of the herb *Bang*, and their propensity to make every rival turn tail, from the established court etiquette of the old Bantam regime.

The Yellow or Nankin Bantams are about the most useful of their tribe, and not the least ornamental.

The Hens are mainly tinted with a ginger-yellow, and have dull blue legs and feet, and small comb. There is a sub-variety, in which they are more brown, after the fashion of some Game Hens. The Cocks are decked in red, orange, and scarlet, mostly with the false speculum of iridescent wing-coverts, altogether of a flashy appearance; and, indeed, when good specimens of their kind, are really beautiful little birds. Of late years they have much gone out of fashion, but deserve to be rescued from utter extermination. Their eggs are large in proportion to the size of the layer, very rounded and full at both ends. They are excellent mothers, particularly for such delicate things as Partridges, Pheasants, and Guinea Fowls. One Hen, however, that we have, prevents this use being made of her powers, by invariably stealing a nest, though at other times she roosts in the fowl-house, with the rest of the poultry. She is usually very successful in her efforts, only we now and then have chickens at unseasonable times of the year. For instance, one October she brought home seven little vivacious balls of down, that certainly would not have had to encounter the dead months of autumn and winter, had any other opinion than their mother's been consulted.

The browner variety of this bird is sometimes called the Partridge Bantam: such are almost miniatures of the Golden Hamburgh Fowls, both Pencilled and Spangled. There is the same double comb pointed behind, the same blue legs and other characteristics of form and plumage. But it would be wrong to conclude from these resemblances that it is a *dwarfed* Hamburgh Fowl; all we can say is, that this bird represents (as some naturalists express it) the Hamburghs among the Bantams; just as many birds of one Continent are found represented in another by corresponding, though quite distinct species of the same genus.

The Sebright Bantam has very much thrown the preceding into the shade. Their beauty is of a different class, but it is questionable whether their merits are

greater. Here we have delicate pencilling in the shape of brilliant colouring. How and whence they first appeared in England is a mystery, and likely to remain so. Sir J. S. Sebright has the credit of having "originated" the breed, a reputation which we believe to be as well deserved as that he "originated" the creation of the feathered race in general. Those in his confidence were accustomed to report that he would travel, "or send," as far as two or three hundred miles to obtain a choice bird, which was doubtless true; but had they added many thousands of miles to the two or three hundred in the "sending" part of the story, they would, we believe, have been still nearer to the truth. That Sir John treated his birds, when procured, with jealous care and skilful nurture will be readily granted. But while breeders continue to be so anxious not merely to conceal their system of management (in the earliest stages at least) but even to mislead inquirers, those who cultivate natural history for its own sake, will not be justified in arriving at hasty conclusions from such information.

We are at once struck with surprise at the impudence of the Sebright Bantams. Oh! The consequential little atom! That such a contemptible minikin as that should have the assurance to parade his insignificant person in the presence of great ladies, the female members of families of weight and substance, before the Misses, and still worse, the Mistresses Dorking, Cochin-China, and Malay, to presume to show marked attention, nay even, I declare! to ——. Well; there is no knowing to what lengths impudence will go, so long as Bantams survive extermination.

Here is a little whipper-snapper! Pretty, certainly, and smart, but shamefully forward in his ways. His coat is of a rich brownish-yellow; almost every feather is edged with a border of a darker hue, approaching to black. His neat slim legs are of a light dull lead colour; his ample tail *from which the sickle feathers are absent,* is carried well over his back. His dependent wings nearly touch the ground. He is as upright as the stiffest drill-

serjeant, or more so, for he appears now and then as if he would fall backwards, like a horse that over-rears himself. His full rose comb and deep depending wattles are plump and red: but their disproportionate size affords a most unfortunate hold for the beak of his adversary; but he cares not for that; a little glory is worth a good deal of pecking and pinching, and it is not a slight punishment, nor a merely occasional infliction of it that will make him give in. The great Hens, too, that look down upon him, and over him, think proper to do battle with him on a first introduction, though they afterwards find out that they might as well have received him in a more feminine style;

> "For Hens, like Women, born to be controlled,
> Stoop to the forward and the bold."

The plumage of the Hens is similar to that of the Cocks. They are very good layers, most excellent sitters, assiduous and affectionate mothers, but most murderous step-mothers: that is, if you attempt to change, or add to, the number of the brood they have hatched themselves, they will welcome the little strangers by making raw-head and bloody-bones of them, before you can return from fetching a pan of water to set before the coop. Their own chickens are dark-brown when first hatched, with no particular marks about them whilst young. This is the variety figured by Moubray as the "Bantam or Pheasant Fowls."

The Sebrights are divided into two varieties,—the Gold-laced, and the Silver-laced. The model Gold-laced Cock should be of a brilliant brownish-yellow, with every feather, including his neck-feathers, narrowly laced or marginated with black all round them: his flight and tail feathers of the same ground colour as his body, but tipped, instead of laced, at the ends with black; rose comb nicely pointed behind; his legs dull light blue; his weight not to exceed 20 ounces. The Gold-laced Hen should correspond in all particulars, except weight, which

must not exceed 1 pound. Silver-laced Bantams are precisely the same as gold-laced, in all respects except the ground-colour, which should be as nearly white as possible, although they are generally inclined to be of an exceedingly light and delicate cream-colour.

The Black Bantam is a most beautiful example of a great soul in a little body. It is the most pugnacious of its whole tribe. It will drive to a respectful distance great dunghill Cocks five times its weight. It is more jealous, irascible, and domineering, in proportion to its size, than the thorough-bred Game Cock himself. Its combativeness, too, is manifested at a very early period. Other chickens will fight in sport, by the time they are half grown, but these set to work in good earnest. One summer we bought a small brood, as soon as they could safely be removed from their mother: there were two Cockerels among them. They were little things, beautifully shaped, but ridiculously diminutive: fairy chickens, some of our friends called them. They had not been with us long, before the liberal supply of barley began to excite them; and the two little imps spent the greater part of their time in fighting, which only made us laugh, judging serious injury impossible. But shortly observing one unusually triumphant (for it had always been a sort of drawn game between them), and the other walking about in an odd and uncertain manner, though firm and fearless, I found that this latter had both its eyes closed from wounds received the day before. I carried it to my dressing-room, to relieve it by sponging, and set it on the stain-cloth, while I went to fetch some warm water. Still blind, it began crowing vivaciously. In a few minutes, its eyes were unsealed, and it was returned to the yard. But battle after battle was immediately fought, and we were obliged to eat one of the combatants to prevent the mutilation of both. We can consequently confirm the statements of those who praise the excellence of their flesh, particularly if it be accompanied by a little good bread sauce. One, that I have seen, was in the constant habit

of fighting, or rather sparring, with a little spaniel that belonged to the same owner. Though apparently attacking each other with great fury, they never seemed to be really in earnest. The arrival of strangers was generally the signal for the commencement of this sham fight, which ended without bloodshed as soon as one or both of the combatants were out of breath. The spaniel was mostly the first to give in, when the victor evinced as much triumph as if he had vanquished a feathered foe.

The Black Bantam, in his appearance, is a pleasing little fellow. He should have a full rose comb, clean and sinewy legs, glossy plumage with almost metallic lustre, of a different tint to the glancing green of the Spanish Fowl, arched and flowing tail, waggish impudent eye, self-satisfied air and gait. The Hen is of a duller jetty black, is less knowing in her manner, and I think in every way of inferior capacity. They have great credit for fulfilling their maternal duties well; but I have found them less affectionate and careful than other Bantams. They are great stayers at home, prowling very little about, and therefore are desirable in many situations, such as suburban villas that are surrounded by captious neighbours. They will remain contented with the range of a moderate stable-yard, and the least bit of shrubbery; and will do much good by the consumption of numerous insects. They are reputed good layers during winter; but that will depend on the liberality with which they are fed. Cooks say that their eggs, though small, are "very rich," which means, perhaps, that they contain a greater proportion of yolk than those of larger Fowls. Guinea-fowls' eggs are prized for the same quality; and any one may, at breakfast, observe how much less a proportion of white there is in them, than in those of the Turkey. Black Bantams' eggs are smooth, tinged with buff, decidedly long-oval in most individuals, and with a zone of irregularity towards the smaller end in some.

The new-hatched chicks are covered with black down, which occasionally has a greyish cast under the belly: bill,

eyes, feet, and legs black. The female chicks are not bigger than the queen of the black and yellow humble-bees, and their slender little legs appear fitter to belong to an insect than a chicken. A desire to obtain the largest possible brood, induced me to hatch some under a great Dorking Hen, because she can cover so many eggs; but I only overreached myself. The big Hen was too heavy and clumsy to officiate as nurse to such fragile atoms.

When brought up by their own mother, a spent cucumber frame covered with a net, is a good place to keep them the first month. The hottest and finest part of the season should be selected for them to pass their chickenhood in. When full grown and plumed, they are not more tender than other Poultry, though they are better suited for confinement in wards.

Those who keep any other variety of domestic Fowl, and are desirous of having plenty of chickens, as well as eggs, had better not permit a Black Bantam Cock to enter upon their premises.

The White Bantam very much resembles the above in every respect except colour: the rose comb may perhaps in some specimens be a little more exuberant. But they are not much to be coveted. The white of their plumage is not brilliant, and is sure to be un-neat in the places where they are usually kept. Were they really guilty of the savage, objectless, and unnatural ferocity that is attributed to them, they would all deserve to have their necks wrung; but the tale wants confirmation. The "Illustrated News" for Feb. 20th, 1847, gives some particulars.

The Feather-legged Bantams are now as completely out of vogue as they were formerly in esteem. We ought perhaps to have referred them to the anomalous Fowls. The chief interest attached to them lies in their hinting to the naturalist an affinity with the Grouse tribe. There were several sorts of them in repute, but they are now nearly extinct in this country. See Albin. Vol. III., p. 32.

Creepers, so called from the shortness of their legs, and Jumpers, from their halting gait, are rather to be considered as accidental deformities collected from unhealthy families of Bantams, than as constituting any distinct variety. A sufficient proof of which is, that many of them are scarcely able to propagate their kind. "The Bantam I spoke of as living so long (seventeen years) was of the Feather-legged sort, spotted cream and white, laying merrily as ever to the last; but not having warmth sufficient to hatch, I always *made her a present* every year of a few little chicks."—*H. H.* Some of these are the very smallest of their genus, being not larger than Pigeons, and not so tall. They are now much out of fashion, and are rarely seen. They are well known, however, to the middle-age curiosity collectors. "But the Hens which Longolius calls pigmy, and renders into German by 'Kriel' (no such word is to be found in Bailey's Dictionary) those, as I have just said, exist here and there; they creep along the ground by limping rather than walking; we call them dwarfs."—*Aldrovandi.*

Again: "Although we declared that we would not give another figure of common Hens, we have thought right, on account of their rarity, to exhibit one of the pigmy or dwarf sort, which we have said that many people unadvisedly consider as the Hadrian Hen (of classical authors), although it belongs to the same kind. But this Hen was all black except the larger feathers of the wings, which were whitish at the tips; she had likewise white spots all round about her neck emulating the full moon, and lastly, a round spot of an ochrey colour encircled her eyes. Her head was top-knotted. The wattles, and comb, which was very small, were of a rather intense red: the feet were bright yellow: the claws small, exceedingly white."

Aldrovandi gives a rich collection of three-footed, four-footed, double-headed, and double-bodied Fowls, that occurred to him in the course of his laborious researches.

The English Edition of Buffon informs us that Jumpers are the same as Cambogia Hens; which, however, does not much add to our knowledge of the variety.

Bantams in general are great devourers of some of the most destructive of our insects. The grub of the Cockchafer and the Crane-fly is an especial favourite with them. Their chicks can hardly be reared so well as by allowing them free access to minute insect dainties: hence the suitableness of a worn-out hotbed for them during the first month or six weeks. They are thus positively serviceable creatures to the farmers, as far as their limited range extends, and still more so to the gardener and the nurseryman. Mr. James Cuthill, of Camberwell, complains in the *Gardeners' Chronicle* for December 1, 1849, of the plague of woodlice, from which he, and others similarly engaged, had seriously suffered. "It matters not," he says, "whether it is the blossom of a Cucumber or that of a Pine-apple that comes in their way, the fruit of a Melon or that of a Cucumber. I have lost many an ounce of Strawberries through their depredations, and also many an early Cucumber that would have brought me 3*s*. 6*d*. in the market. The means I have employed for their destruction have been toads, which are effectual; but they are expensive, being 4*s*. a dozen. Many of them die, and except they are kept in quantity, the woodlice cannot be kept down. My object now, however, is to state that from some trials I have made, I am convinced that woodlice may be killed by the use of Bantam Fowls. This plan may be put in operation by any one, even at this time of the year. I first had a hundred woodlice caught at a rubbish heap, and gave them to three Bantams; they ate them up in something less than two minutes. I had these birds in attendance when turning over a rubbish heap, and not a woodlouse was allowed to escape, nor any insect, the Bantams devouring everything. It will thus be seen that, if Bantams were encouraged and brought up in gardens, they would effect much good; and I am of opinion that it will soon be

found as necessary to keep Bantams to kill vermin as it is to keep cats to keep down rats and mice. They will save various garden crops from injuries to which they would be otherwise exposed. They would scratch a little, to be sure, but so do cats; and if the smaller kinds of Bantams are kept (those about the size of a Partridge) their scratching would do little harm." We give this statement as being the experience of a practical man.

THE RUMPLESS FOWL, OR RUMKIN.

BLAINE, in his Encyclopædia of Rural Sports (London, 1840), says, "Of the feathered tribes of Ceylon, the most remarkable is the *tailless Cock* (*Gallus ecaudatus*, Temm. fig. 25), at present, we believe, only known in its wild state in the forests," &c. It may appear too sceptical in us to question whether it be now to be found wild in the forests of Ceylon,* but it certainly has been extant in

* It is hardly possible to cavil at Temminck's evidence of its existence there. In reply to Buffon's fairy tale that Cocks when transported to Virginia lose that portion of their person on which the tail grows—a romance that seems to have imposed on the sober Dr. Latham—he says, "We can positively state that Buffon's opinion has not been confirmed; this rumpless Cock was not originated in the New World, since the primitive species inhabits the Island of Ceylon; the Hen makes her nest on the ground; it is rudely constructed with fine grass, and resembles the nests of Partridges. The disposition of this bird is wild; the Cock frequently utters his crow, which, though less sonorous than that of our Domestic Cocks, has still the same cadence. The Cingalese designate this species by the name of Wallikikili, which means Cock of the Woods. The distinctive characters of this species consist in the want of the last vertebra of the back, on which grows the carnosity that we term 'rump:' the absence of this vertebra is the natural cause that Cocks and Hens of this species are without the caudal feathers, as well as all the coverts, which in other birds are planted on the rump: this species is also distinguished from the other Cocks that we have described by having his comb round, and without indentations." [He then minutely describes the plumage.] "I am unacquainted with the colours of the primitive female of this rare species, the Governor of Ceylon, to whom I am indebted for information respecting this wild Cock, having sent me only a very old male, and a second individual, male also, at the stage when the comb and wattles begin to show themselves; an adult

Europe for the last two or three hundred years. In the spring of 1848, a pair of very good specimens, with brown and white plumage, were exhibited at the Surrey Zoological Gardens, and labelled as "from Persia." Twenty or thirty years ago, when weavers and other artificers took more delight in tulip-beds, stages of auriculas, and fancy Fowls and Pigeons, than in the Physical *v.* Moral Force Question, I have frequently seen grey-plumaged Rumkins, as well as Frizzled Fowls and other curiosities, walking about the streets, and "plains," and churchyards of Norwich. Those sources of amusement are now much neglected. But if the Rumkin be really a remnant of the original Fauna of Ceylon, it will be a pity if it be suffered to become extinct, although it be one of Blumenbach's defective monsters (*monstra per defectum*). It is curious that another island under the British rule should furnish a quadruped similarly defective. Manx Cats are well known for the peculiarity of having no tail. They are still to be met with now and then; but the native race, or species of Pigs, which were wild in the mountains a hundred years ago, appear now to be quite exterminated from the Isle of Man. Insular tribes of animals have but little chance of survivorship, as human population increases. In New Zealand, the wingless bird—another defective monster—appears to be now a fast vanishing apparition from the face of the earth.

male is deposited in the cabinet of Mr. Raye de Breukelerwaert, at Amsterdam. These three individuals have the same distinctive characters, and the colours of their plumage absolutely correspond. The different domestic races of this species are distinguished by different coloured plumage; most of the Cocks have indented combs like those of our village Cocks; others have also the double comb. I have not yet met with one having a smooth comb, and without indentations; this last race, if it exist, would be that which retains most of the source, or first type. It is scarcely possible to furnish particulars of the origin of the domesticity of the Rumpless Cocks; the date of it, nevertheless, ought to be more recent than that of the other species which have produced the village Cocks; but inquiries on this subject cannot be established by proofs; they lose themselves in the night of time."

I have found no mention of the Rumpless Fowl in classical authors, but Aldrovandi was aware of its existence :—

"The Cock which they call the Persian, and which we have here figured, differs from our own sorts mainly in having no tail; in other respects, it is very like them. The comb, however, has a sort of tail. It was all black, sprinkled with yellow lines: the first quill-feathers were white, the rest black; the feet ashy: the Hen was like our own in respect to shape and carriage; of an extremely different colour to the male, whence I attach little weight to diversity of colour, in these as in them. She was all over of a ferrugineous colour, except the three quill-feathers, which were black. Her comb, if you compare it with the comb of the male, was much smaller."

Aldrovandi's Rumpless Cock is represented with a large double comb, that is produced backwards, "veluti caudam," like a tail. I am without information as to their laying and sitting qualities. They are not small, being at least of the average size of Fowls.

"This species," says Temminck, "has given rise to many exaggerated tales. Before the domestic race (of the Rumpless Fowl) was well known, and dispersed through the different countries of Europe, the vulgar conceived ridiculous ideas, brought forth by superstition, on the subject of these birds.

"The 'Philosophical Transactions of the year 1693,' inform us that the Cocks of Virginia have no rumps; the inhabitants of this colony affirm that when Cocks are transported there they soon lose their rump; but this opinion is false, and has not been confirmed by modern travellers. Buffon, who seems to put faith in this improbable story, appears to conclude from it, that this species *originated* in Virginia; 'the more so,' says this naturalist, 'as the ancients were unacquainted with them, and naturalists did not begin to mention them till after the discovery of America.'"

Such are the marvellous effects of climate! Such are

the foundations for doctrines which common sense cannot help believing dangerous in tendency as well as false in principle! That such nonsense should influence the opinion of learned philosophers!—nonsense deserving only to be answered by other nonsense. If this wasting away of the indescribable part of the bodily frame be general in Virginia; if the inhabitants of that State really are subject to the loss—shall we dare say it?—of their rumps,—what a profitable speculation it would be to send out to them a few ship-loads of bustles, to try if they also will disappear by the influence of the climate!

THE SILKY AND THE NEGRO FOWLS.

ANOMALIES have been called "finger-posts that point the way to unsuspected truths." This strange genus—for their claims to that title deserve to be investigated—ought to excite the curiosity of naturalists, though they have not much merited the favour of poultry-keepers. Even if it be found that they produce prolific offspring when cooped with our common Poultry, that circumstance cannot be allowed to weigh for much in our present most imperfect knowledge of the family. A great deal of confusion and uncertainty is current respecting the Silky and the Negro Fowls; and it cannot be expected that a country clergyman, who has but limited means of investigation at command, should be able, in a first endeavour, to throw much light on a most intricate and difficult subject, or to afford much final information on a class of creatures which have a more appropriate place in the museum than in the Poultry-yard. But they may safely be pronounced to be worthless, as stock: they are kept in existence in this country by importation from India, rather than by breeding. They may be had in London for about 10*s.* each; for less, perhaps, occasionally; and a collection of them, and a comparison of their differences, is desirable for scientific purposes. It may be presumed that in India several kinds are to be found, with which we are totally unacquainted. We have, however, quite enough to stimulate inquiry. There are, 1st, A Silky Fowl, with white plumage and skin, red comb, and bones coloured the same as in other Fowls; called sometimes the Nankin Silky

Fowl. 2ndly, Another Silky Fowl with white plumage, but with dark skin, and comb, and dark bone, called also, the Black-boned Fowl. Such as these are doubtless those in the possession of the Queen. "I saw a lot of ugly, undersized, white Fowls, with black combs and indescribable plumage, that had been sent to her Majesty from the East, which I suppose are the breed to which you refer. See the article 'Pheasant' in the 'Penny Cyclopædia.' My brother tells me that he saw some very small White Silky Fowls which had been brought from Calcutta. If I remember aright, her Majesty's were as small as many Bantams."—*J. S. W.* 3rdly, There is another kind of Silky Fowls, with plumage almost black, with black comb and skin, and with bones that are black, or of a dark colour: and, 4thly, I am led to believe that there exists, what would be the true Negro Fowl, a bird with black comb, skin, and bones, and with plumage which is black, but not silky.

Instances of creatures having bones *naturally* discoloured, are, I think, rare. The only other one I can call to mind is that of the gar-fish, which is not unfrequent in the London markets, a most curious piece of organisation, with a long beak like a snipe, a long body like an eel, but flattened like a riband, and grass-green bones. "The Wool-bearing Hen I take to be altogether fabulous, and its figure in *Aldrov. lib.* 14, *cap.* 14, taken out of a certain map, fictitious. Perchance it was no other than the frizzled or *Friesland* Hen, which *Odoricus de Foro Julii* and *Sir John Mandevil* call the Wool-bearing Hen. The birds which *M. Paulus Venetus* makes mention of in these words, '*In the city* Quelinfù, *in the kingdom of* Mangi, *are found Hens, which instead of feathers have hairs like Cats, of a black colour, and lay very good eggs,*' seem to be *Cassowaries.*"—*Willughby*, p. 156. A daring piece of scepticism for those times! However, the Frizzled and the Silky Fowls are quite distinct. Aldrovandi's own words are:—"The likeness of this Wool-bearing Hen is taken out of a certain cosmo-

graphic map. There is a very great city towards the East, in which the largest Cocks are produced. The Hens are white as snow, and, according to Odoricus of Forum Julii, (three different towns rejoice in that name) are covered not with feathers, but with wool like sheep. Also Marco Polo, the Venetian, writes that in the city Quelinfù, in the kingdom Mangi by name, Hens are found, that in the place of feathers have hairs like cats, are of a black colour, and lay most excellent eggs." Aldrovandi's figure is black, with large wattles, and elaborately jagged comb. The bird is covered with curly locks. But an inspection of these old wood-cuts, especially in botanical works, suggests the idea that many of them were merely symbolical, intended rather to give the hieroglyphic of the thing meant, than an actual verisimilar representation of it.

Temminck states positively that the Negro Fowl exists in a wild state in India; and that both it and the Silky Fowls differ anatomically from the ordinary domestic Fowls. Buffon wonders what it can be which the Negro Fowls *find to eat* in their native home, so to change the colour, not merely of their comb and skin, but of their periosteum also.

Analogous to the Silky Fowl is the Lace Pigeon, so called on account of the peculiarity of its feathers, the fibres or web of which appear disunited from each other throughout their whole plumage.

THE FRIZZLED, OR FRIESLAND FOWL.

It is difficult to say whether this be an aboriginal variety, or merely a peculiar instance of the morphology of feathers; the circumstance that there are also Frizzled Bantams would seem to indicate the latter case to be the fact. School-boys used to account for the up-curled feathers of the Frizzled Fowl, by supposing that they had *come the wrong way out of the shell.* They are to be met with of various colours, but are disliked and shunned, and crossly treated by other Poultry. Old-fashioned people sometimes call them French Hens. The reversion of the feathers rendering them of little use as clothing to the birds, makes this variety to be peculiarly susceptible of cold and wet. They have thus the demerit of being tender as well as ugly. In good specimens every feather looks as if it had been curled the wrong way with a pair of hot curling-irons. The stock is retained in existence in this country more by importation than by rearing. The small Frizzled Bantams at the Zoological Gardens, Regent's Park, are found to be excellent sitters and nurses. Aldrovandi has an unmistakeable figure of the Frizzled Cock, and gives the following account of it:—

"Pompilius Tagliaferrus, of Parma, not the lowest amongst distinguished physicians, wrote to me respecting this Cock, in these words: 'I send thee the effigy of a monstrous Cock, although the painter has not satisfied me in its delineation. But I wish you to know that two things particularly worthy of admiration are to be found in this Cock, which are scarcely ever seen in our

own Cocks and Hens. The first and principal is, that the feathers of the wings are situated in a contrary manner to what they are in others, for the flat part of them, which by the prescript of nature in others bends inwards, in this is seen outwards, so that the whole wing appears entirely reversed. I think another thing worthy of notice, namely, that the small feathers of the neck are erected towards the head, like curls, whither also the whole tail appears to be bent.' So far he. But what he records of this Cock, neither its portrait sent to me, nor our figure sufficiently express; which his words show to have happened through the unskilfulness of the painter." Aldrovandi seems to doubt the fact. His bird is drawn with a large, deep-cleft comb.

Temminck makes a species of this bird. He says, it is a native of Asia, and is found in a domestic state throughout Java, Sumatra, and all the Philippine Islands, where it succeeds well; but he is uncertain in what country it is still found wild.

It is curious that there should be a Frizzled Pigeon, called by Fanciers, the Frill-back.

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Mustard, black—white
Naphtha, coal tar
Nascent
Natural vegetation
Night soil—disinfected
Nitrate of lime—of potash—of soda—of silver
Nitre beds—cubic
Nitric acid, action of
Nitric acid in manure
Nitrogen
Oak ashes
Oats—oat straw
Oil cake—castor—cloves—cocoa-nut—drying—fixed—of lavender—of lemons—linseed—mustard—olive—poppy—rape—of turpentine—volatile—of vitriol—dregs—seeds
Oily matters
Ores, roasted
Organic acids—manures—matter—substances—substances in soils
Oxalis
Oxide, carbonic—of copper—of iron—of lead—of manganese—of mercury—of silver—of tin—metallic
Oxygen
Paper bleached
Paring
Parsnip
Paste
Pearl-ash
Peas—pea-straw
Peroxides
Per-salts
Petre—salt
Pewter
Phosphates—earthy—of alumina—of ammonia—of lime—of magnesia
Phosphoric acid in plants—in water
Phosphorus
Pine-apples
Plants, composition—death—decompose carbonic acid—effect on air—food—growth—nutrition—elements—burning—use of
Plaster stone
Ploughing, subsoil
Pond mud
Poppy seed—oil
Potash, bitartrate—carbonate—caustic—in plants—in the soil—muriate of—nitrate—salts of—silicate—sulphate
Potassium—chloride
Potato-haulm—starch—sweet
Pottery
Protein
Proto-salts
Protoxides
Pruning
Putrefaction, influence of lime
Putty powder
Pyrites—copper
Pyroligneous acid
Pyrolignites
Quartz
Quaternary compounds
Quicklime
Quicksilver
Rape-seed—oil of
Red cabbage
Red lead
Rennet
Resins
Respiration
Rhubarb
Rice
River mud—water
Road drift
Rocket
Rocks, disintegration of
Roman vitriol
Roots
Rotation of crops
Ruby
Rushes, Dutch
Rust of iron
Rye—rye straw
Saccharine matter
Sago
Saintfoin
Sal-ammoniac
Saline compounds
Saline manures
Salt—and lime—briny—common—in sea-water
Saltpetre—spirit of—rock—sea—solution in water
Salts, Epsom—Glauber's—of hartshorn—of iron—of magnesia—of the metals—of potash—of soda
Sand
Sapphire
Sawdust
Sea fowl, excrements of

[*Over.*

Sea-water—weed
Seed, formation of
Seeds, germination of
Shells—shell sand
Silex—silica, chloride—in plants—in soil, use
Silicate of alumina—of lime—of magnesia—of potash—of soda
Silicic acid—silicon
Silver—oxide—nitrate—salts of—sulphuret
Skin
Slaking of lime
Slags
Smells, foul
Smelting
Soap — boiling—decomposition of—ash
Soda — carbouate — in rocks—in plants—muriate—nitrate—in soils—silicate—sulphate
Sodium—chloride
Soil, colour—analysis—composition—exhaustion—formation—mixture—nature
Solder
Soot
Sorrel
Spirit of salt—of wine
Starch
Steam
Still
Straw — of barley — of buckwheat—of lentils—of maize—of oats—of rye — of vetch — of wheat
Subsalts
Subsoil—ploughing
Substratum
Suffocation
Sugar—of lead
Sugar-refiners' waste
Sulphates of alumina—ammonia — copper — iron—lime—magnesia—of potash—of potash and alumina—of soda
Sulphur—in plants
Sulphuret of iron — of lead—of silver—of tin
Sulphuretted hydrogen
Sulphuric acid
Sulphurous acid
Sunflower—seed
Super-salts
Super-phosphate of lime
Super-tartrate of potash
Swedes
Tapioca
Tarnish on silver
Tartaric acid
Tartrates
Teeth
Ternary compounds
Tests, vegetable
Thermometer
Tiles
Tin, oxide—plate—sulphuret
Tobacco
Treacle
Tropical countries
Tubers
Turnips
Turpentine—oil of
Urate of ammonia
Urea
Uric acid
Urine, cows'—horses'—human—putrid—pigs—sheep
Vapour, condensed
Vapour in the air
Vegetable alkalies—tests
Vermilion
Vetch—straw
Vinegar
Vitriol, blue — green — oil of—white
Volatile alkali — oil — substances
Walnuts
Water, air in—action on lead—its composition—its freezing—impurities in — phosphoric acid in—pure—rain—sea — soft — spring — hard
Weeds—weed ashes
Wheat grain — straw — starch
White lead
Wine
Wool—soap
Yeast
Zinc—chloride—oxide

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